Harveian Lectures
ON
SYPHILIS.

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LECTURE I.—PART II.

BEFORE discussing the objections to the dual theory of venereal disease I wish to allude to another important point in the pathology of syphilis, which began to attract attention about this time. I mean, the period of incubation which is found to precede the development of the indurated primary sore, at all events in a considerable proportion of cases. Everyone who has had much to do with the treatment of venereal disease must have noticed that patients presenting themselves with an indurated sore frequently state that they have not been exposed to any chance of contamination for a considerable time before the appearance of the sore, the time varying from about ten days to five or six weeks, or occasionally even longer. Often a slight abrasion has been noticed at the time, which disappeared almost immediately and has been forgotten; but after an interval a thickening has appeared at the spot where the abrasion took place. The thickening is of an indolent painless character; it is usually attended with a superficial ulceration, but not necessarily so; sometimes it remains as a mere thickening without breach of surface. At the time of its appearance, or soon afterwards, there will be noticed in most cases an indolent enlargement of the neighbouring lymphatic glands. This induration, unless treated at an early period, is nearly certain to be followed by constitutional infection.

The lapse of time, to the extent even of several weeks, between the exposure to contagion and the appearance of the sore was noticed by Hunter, as well as by Swediaur and others before his time; but it is only recently that its special relation to the indurated infecting form of sore has been clearly demonstrated. The existence of a period of incubation was long denied by Ricord, who contended that it was simply a period of *inobservation*, arising from the carelessness of patients in noticing the first appearance of the disease.

But there is now an accumulation of facts which are conclusive as to this question of incubation. Some surgeons have not hesitated to inoculate sound persons with syphilitic matter; other inoculations have been made by surgeons in their own persons to test the question; and a variable time has almost always been found to elapse before the appearance of the characteristic symptoms. The material inoculated has sometimes been derived from indurated primary sores, sometimes from the secretion of secondary affections (such as mucous tubercles), sometimes even from the blood of syphilitic patients, and the result has been almost uniformly the same. The period varies, as I have stated, but it has not, as was once supposed, been found, as a rule, to be longer when the inoculation has been with the matter of secondary sores than when taken from what is usually called the primary ulcer.

The existence of a time of incubation in many cases may be accepted as an undoubted fact, but it is quite another thing to admit that it is constant and that it is a necessary condition of every infecting sore, as has been asserted. In many cases no such interval in the initiation of the infecting sore can be observed. It appears in such cases, within a very short period of contagion, as a pustule, in precisely the same way as the soft sore, from which it is impossible to distinguish it. But after a variable time—Ricord says never before the fifth day, but rarely so soon as this—a thickening of the base of the sore may be observed. The surface may continue to secrete well-formed pus as before, thus giving the sore the characteristics of both kinds; or the purulent discharge may be changed for a thin serous secretion, and the appearance becomes that of a typical indurated sore. This is certainly what I have repeatedly seen in practice, and I think many of those whom I am addressing must have witnessed the same thing. In either case, however, there may be said to be a period of incubation before the development of that very significant symptom, the induration of the base of the sore. The result as regards secondary infection is the same in both cases; that is to say, it is almost certain to occur unless arrested by early mercurial treatment.

It will hardly now be questioned that a sore attended with indolent painless induration and similar multiple enlargement of the neighbouring lymphatic glands will be almost invariably of the infecting character; but is it equally certain that the soft suppurating sore is *never* followed by a like result? This, as I have already pointed out, has been very positively asserted, and it is the opinion now held by many good authorities, though not, I venture to think, by the majority of surgeons of experience—in this country, at all events.

Of the erroneous nature of this doctrine I have always entertained a strong conviction, for I have repeatedly seen suppurating sores which I have had the opportunity of watching throughout their course, and which have never shown any induration that I could discover, but which have nevertheless been followed in due course by constitutional disease. My individual experience on such a point may not be worth much when opposed to that of the many distinguished observers who have arrived at the opposite conclusion; but if I am wrong, I can claim, at all events, to err in good company, as may be shown by reference to the Blue-book containing the evidence taken by the Medical Commission appointed by the Admiralty in 1865 to investigate the whole question of venereal diseases, with a view to their prevention. That Commission, presided over by Mr. Skey, examined a great number of witnesses, hospital surgeons and physicians, including nearly all those who had paid special attention to the subject of venereal disease, naval and military medical officers, and others. The evidence is a most valuable record of professional opinion in this country on most of the controverted points relating to venereal disease, and is well worth an attentive study. On the question now under consideration—viz., the possibility of secondary infection from the soft suppurating sore—nearly every witness was asked his opinion, and a considerable majority gave it in favour of its occasional occurrence, many of them stating it to be a fact within their own experience from cases which they had had under observation throughout. To use the words of the Committee in their report, "twenty-nine experienced witnesses gave evidence that sores, both soft and hard, may be followed by every variety of syphilitic eruption." Those who deny this possibility explain these cases by saying that the sores have not been observed with sufficient care; that there has been an induration, imperfectly developed or evanescent, at some period of their progress; that there may have been another sore which escaped observation, or that the secondary affection may have been only a relapse of former disease. There must either have been an error in diagnosis, or there must have been some other sore, perhaps at some other place, perhaps at some other time; which seems to me pretty much the same as saying that if the facts are against them, so much the worse for the facts. With a view to overcome this difficulty, it has been urged that there are two kinds of infecting sore—an infecting sore *with* induration, and an infecting sore *without* induration, the latter being not of frequent occurrence, but still essentially distinct from the soft suppurating sore. It is admitted, however, that the diagnosis between this non-indurated infecting sore and the ordinary soft sore is very difficult, if not impossible, and can only be really established by the fact of infection when it occurs.

The difficulty of making this distinction being thus admitted, it is surely easier to believe that no such distinction exists, but that the soft and hard sores have an intimate relation to each other, and are in fact the product of one and the same virus. The action of the virus may be modified in the case of the soft sore, so that its infecting property is materially lessened, but it still retains that property to some extent, and under favourable circum-

stances, and on a suitable soil, may produce constitutional disease. The modification may arise from the nature of the local process which is induced, suppuration being more favourable to the elimination of the poisonous material than to its absorp ion into the constitution; or it may be, as urged by Clerc, that the soft sore is the result of the action of true syphilitic matter on an individual already constitutionally infected, in whom, the diathesis having been once established, the virus can only reproduce itself in the modified or hybrid form of the soft sore, which, when transferred to a third person, will, as a general rule, be entirely local in its effects, but may as an exception retain the infecting property of the sore from which it was originally derived.

Mr. Hutchinson, who has recently stated his opinion that "duality is dead," says that the soft sore results simply from pus contagion, this pus being more or less peculiar, its peculiarities being due to its having originated in syphilitic inflammation. He insists that this pus may or may not contain the germ matter of syphilis, and that the soft sore therefore will sometimes prove infecting.

The question is not merely a theoretical one, but is of great practical importance with reference to prognosis, for an implicit belief in the dualistic theory will not unfrequently lead to error and disappointment. It is unsafe to predict confidently that any venereal ulcer, even a soft sore attended with suppurating bubo, will entail no further consequences. There is a strong probability that an indurated sore will prove infecting, and there is a probability, though not nearly so strong, that a soft suppurating sore will not; but exceptions to both these general rules will be met with, and there is really no absolute proof of the infecting nature of any given sore but the fact of infection itself.

At the same time, while declining to accept the duality theory, I admit that its advocates have done good service by bringing into striking relief the important differences between the two varieties of venereal sore, which thirty years ago, and within my recollection, were confusedly jumbled together. They have been too positive in their conclusions, and too prone to formulate absolute laws without sufficiently considering all the complications of this most difficult of questions—but they have established a rule as regards secondary infection which is sufficiently general to be a most valuable indication for treatment, and to save multitudes of patients from the misfortune of an unnecessary mercurial course.

There is one point, to which I have already alluded, about which I wish to say something more, because it has a very important bearing on the pathology of syphilis; I mean the inoculability of the secretion from an indurated sore, which has been so positively denied of late years, since the introduction of the double virus theory. It is said that although this sore is intensely poisonous and will produce its like when inoculated on a healthy person, it will produce no result when inoculated on the bearer of it or on anyone who is or has been the subject of constitutional syphilis. The syphilitic diathesis being already established in such persons, their receptivity of the poison which caused it is exhausted, as is the case with the vaccine or variolous poisons.

There is some foundation for this view, inasmuch as the indurated sore can only be inoculated on a syphilitic patient with difficulty, and in some cases not at all, whereas the soft suppurating sore is very easily inoculable on almost all subjects, whether syphilitic or not. The difficulty, however, has, I think, been exaggerated. Sperino, of Turin, and Boeck, of Christiania, who practised syphilisation, and, therefore, inoculated on a very extensive scale, preferred for their purpose the matter of indurated sores. Sperino says nothing of the difficulty. Dr. Boeck, a most trustworthy and painstaking authority, says that if certain precautions are taken, it is only as an exception that the hard sore is non-inoculable on a syphilitic person. He prefers this matter and constantly uses it, but admits that in proportion as the secretion is thin and serous will be the probability of failure; but if the surface is irritated and made to suppurate, a positive result may usually be expected. In 1865, during the time that experiments in syphilisation were being conducted at the Lock Hospital by Dr. Boeck, under the observation of Mr. Gascoyen and myself, I was cognisant of five cases in which this kind of inoculation was successful, and about the genuineness of which neither he nor I could entertain any doubt. It is true that when the indurated sore is successfully inoculated on a syphilitic patient it does not produce its like, but gives rise to an ulcer exactly resembling that produced by an inoculation from a soft chancre, and is reinoculable through a lengthened series in precisely the same way. We were thoroughly convinced of the identity of the result, whether the matter had been originally taken from the one form of sore or the other. There was no difference that we could appreciate in the mode of development of the ulcers, in their duration, in their progress, or in the appearance of the resulting cicatrices. If, then, it is true that inoculation from one form of the disease will produce a sore in no way distinguishable from that which is characteristic of the other form, and if, as I have before pointed out, both forms of sore may induce the same constitutional results, surely these are very striking proofs that we are not dealing with two perfectly separate and distinct diseases.

Those who support the theory of two poisons have, I am aware, put forward an explanation of all these anomalies and contradictions, which, if it could be accepted as true, would settle the question finally and at once. In addition to suggestions of errors in diagnosis, or that the instruments used for inoculation may have been contaminated with matter from soft sores, it is urged that both these separate diseases may find expression in one and the same sore, to which the name of mixed chancre has been assigned by its inventor, M. Rollet, of Lyons. This mixed sore is said to be caused by the accidental implantation of both kinds of virus on the same spot. It possesses, we are told, the induration and infecting property of the one kind, with the suppurating surface and ready inoculability of the other. This double contamination may be communicated at once from a person labouring under a similar mixed sore, or from one having both forms of sore at the same time; or a hard sore may be inoculated with matter from a soft sore at any period of its progress, or *vice versâ*, and the mixed chancre is the result. This, it will be seen, explains all the difficulties in the way of the acceptance of the duality theory in a very complete manner. Thus, if a sore is of the soft suppurating kind at first, and afterwards becomes indurated and infecting, it must have been a mixed chancre, which developed the ulcerative property of the soft sore at first, but became indurated after the proper period of incubation. If secondary symptoms are sometimes found to follow a soft sore, this must have been a mixed chancre, of which the induration may have been masked or destroyed by the ulceration, and have been overlooked. Or if a successful inoculation is made from a hard sore, this must have been a mixed chancre, the real character of which has not been understood. Now, it is hard to conceive that this accidental implantation of one virus upon the other can be anything but a very exceptional occurrence, whereas, if it is to be used as an explanation of all the cases to which I have just alluded, it must be exceedingly frequent; and in the last class of cases mentioned it implies that such experienced inoculators as Sperino, Boeck, Bidenkap, and others, were incompetent to form a correct judgment of the nature of the sores with which they were dealing. Before admitting the reality of such a sore, the evidence in its favour should be much more conclusive than any which has hitherto been adduced, whereas, in fact, it has been of the slenderest possible character. It has been found that when matter from a soft sore has been inoculated upon a hard one, the latter has taken on an ulcerative action and has become readily inoculable. It has been converted into a mixed chancre. The mixed sore is also alleged to have been produced in the converse manner by engrafting a hard sore upon a soft one, but the evidence as regards this is less clear and satisfactory. But, granting that both these facts have been observed, there is no need to call in the aid of the mixed chancre to explain them, for there is what I think a much more probable explanation ready at hand. In the first case the indurated sore is excited to suppurate by the irritating properties of the soft matter placed upon it, just as it would suppurate when irritated by a blister or by savine ointment; while the somewhat uncertain examples of the second mode of mixture are explainable by the fact that a soft sore may develop an induration at any period of its course. The mixed chancre had its origin in the necessity felt by the advocates of the duality theory of explaining away well-known facts which were incompatible with that

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view, and but for that necessity, as M. Clerc well observes, it would probably never have been heard of. The hypothesis, for it is really nothing more, appears not so much to have arisen out of the facts, as the facts to have been made to square with a previously-conceived hypothesis.

The relation of phagedæna to syphilis is another point of interest. Either form of venereal sore may, as is well known, become phagedænic at any period of its course, and phagedæna is perhaps a more frequent accompaniment of venereal sores than of any other kind of ulcer. In fact, venereal sores used at one time to be described as of three kinds—the indurated, the unindurated, and the phagedænic. Mr. Hutchinson seems to consider that phagedæna has some special relation to syphilis, for he has recently spoken of syphilis as being, with few exceptions, either directly or indirectly, the parent of all phagedæna. I cannot agree with this view, nor can I recognise the near relationship which he suggests. Dirt, drink, debility, neglect, and want, seem to me to be the chief progenitors of phagedæna, and syphilis to have no more than a distant or casual connexion with it. I am confirmed in this opinion by what I have seen of late years of the working of the Contagious Diseases Acts. Before these Acts were passed the most frightful cases of sloughing phagedæna were continually being sent from the Farnham Union to the Female Lock Hospital in London. The patients were the outcasts from the camp at Aldershot, driven to sleep where they could—in barns, under hedges, in ditches, and even, as shown by evidence, in drains. The lower class of women frequented by the soldiers at Woolwich and Greenwich used to be sent in like manner by the Greenwich Union, and these furnished cases only a shade less severe than those from Aldershot. Police supervision, with periodical medical inspection and *early* hospital treatment, have changed all this completely. Since the Acts were passed, the women from Woolwich and Greenwich have all been sent to the London Lock Hospital; the women from Aldershot were also received there for the first year or two, until the Local Government Lock Hospital was built. The result was that in a very short time phagedæna had all but disappeared from amongst them. The same thing was observed in the women sent from Dover, Canterbury, Maidstone, Colchester, and Windsor, who all, when the Acts were passed, were at first received in the London Lock Hospital. Nothing could be more striking than the change which was wrought in the character of the cases coming from a district after it had been under inspection for two or three months. At present, if a severe case presents itself, it is almost sure to be in some unfortunate who has migrated from a distance into the inspected district in order to secure being sent at once into hospital for treatment. The sores are now of the mildest character, and, what is equally remarkable, even suppurating buboes are but rarely seen. The present condition of these women is a striking illustration of the extent to which venereal disease may be mitigated by early treatment, enforced cleanliness, and strictly regulated diet and habits. It is certainly a remarkable fact that districts in which the lowest prostitutes abound, and in which every one of them is known, should, when subjected to regular inspection, only quite exceptionally furnish examples of really formidable venereal disease.

Phagedæna, I contend, is, as a rule, only an accident of a syphilitic sore, the offspring in most cases of dissipation and neglect. Probably any other ulcer, under equal irritation, would be equally liable to phagedænic action. It is rarely seen in persons well to do, or in those who are careful and cleanly in their habits; or, if it does occur in such, it will pretty surely be found to depend upon some palpable constitutional defect which predisposes to destructive action. It certainly need not depend upon the character of the sore from which the contagion was derived, for it was abundantly shown long ago by the military surgeons in the Peninsula that the most destructive ulcerations in the male may arise from connexion with females suffering from disease so mild as to cause them scarcely any inconvenience. The faulty predisposition here evidently existed in the patients themselves.

But although it may be abundantly clear that phagedæna, in the great majority of cases, depends upon conditions proper to the sufferer, it may still be that it is capable of producing its like, and that the secretion from a phagedænic sore may communicate phagedæna to another person. At the Lock Hospital, two patients who had been undergoing syphilisation were, unadvisedly and without instructions, inoculated by the house-surgeon with matter from a spreading phagedænic sore. Four punctures were made in each case. In both patients sloughing sores were produced at each puncture, and in one of them they spread to an alarming extent. Something very similar, though less severe, happened in a patient with tertiary syphilis, whom I was treating by syphilisation in conjunction with the late Mr. Skey, and whom I inoculated with matter from a sore which, as it turned out, was just beginning to become phagedænic. In these cases the sores, even in their early stage, did not present the usual aspect of a syphilitic inoculation, but rapidly gave evidence of spreading phagedænic action. Here the tendency to phagedæna did not reside in the patients themselves, for all three had been inoculated until it had become almost impossible to obtain a positive result with any ordinary syphilitic matter, and the numerous old inoculations still remaining open pursued their ordinary course undisturbed.

Phagedæna, then, seems capable of reproducing its like, and although it may have supervened upon a syphilitic sore, it may communicate to another person not syphilis, but phagedæna; it supersedes and destroys the syphilitic action by the destruction of the infected part, and thus, if it sets in before there has been time for general contamination, it may sometimes prevent constitutional disease.

Having alluded at the early part of this lecture to the formerly supposed connexion between gonorrhœa and syphilis, I wish to take the opportunity of expressing my entire concurrence with those who hold that there is no such thing in existence as a specific gonorrhœal poison. I know of no proof whatever that a gonorrhœa is anything more than a urethritis, varying in intensity partly in accordance with the more or less irritating properties of its exciting cause, and partly in accordance with the individual constitution and susceptibility of the recipient. The most frequent exciting cause is undoubtedly to be found in the morbid secretions of the generative organs when transferred from one sex to the other. These secretions are in a sense, of course, contagious, but they act as simple irritants, and the result is simply an inflammation without any specific character. As a general rule, the more active the inflammation which gives rise to such secretions the more acute will be the effect. But this is by no means always the case. An acute urethritis, to all intents and purposes a gonorrhœa, may be caused in the male by mucous or muco-purulent or menstrual discharges in the female, the origin of which is altogether independent of contagion. It is often caused, in young men especially, by excessive sexual indulgence, and still more by excessive sexual and alcoholic indulgence combined, and this often happens when no disease whatever can be discovered in the female supposed to have been in fault. I have had the opportunity repeatedly of examining both parties involved, and can testify to this as a fact of not unfrequent occurrence, and I quite concur in the opinion which has been expressed by Fournier, that it is as common for a man to *give himself* a gonorrhœa through his own imprudence as to *receive* it from the woman with whom he has been connected. Gonorrhœa or its equivalent has also been produced artificially by the injection of solution of ammonia and other stimulants into the urethra, and the same is well known to occur occasionally after the passage of instruments or the irritation of urinary deposits.

In the female I believe the great majority of vaginal discharges which may give rise to gonorrhœa in the male do not depend upon contagion at all, but arise spontaneously as the result either of some constitutional or local disorder, or, in the case of prostitutes, of the continual irritation to which the generative organs are subjected. I have had large opportunities of treating women of this class, and I have constantly found that the older and more seasoned women are affected with vaginal and uterine discharges of a muco-purulent, more or less leucorrhœal character—hypersecretion, with little or no inflammation—and without, in my opinion, any actively irritating property. The younger girls, on the contrary, frequently show obvious hyperæmia of all the parts, which are acutely tender when touched, and secrete a yellow discharge of a very irritating quality, as is evidenced by its tendency to cause excoriations on the adjacent external parts. This is a phase through which most of them pass when they first enter upon a life of

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prostitution, and they, much more than the others, are likely to communicate disease to those with whom they associate. But this also is one of the consequences of their mode of life, and does not necessarily, or as I think most frequently, arise from direct contact with gonorrhœal matter conveyed to them by men suffering from that disease.

A SUGGESTION CONCERNING THE

CONDITION OF THE NERVOUS CENTRES IN MIGRAINE, EPILEPSY, AND OTHER EXPLOSIVE NEUROSES.

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IN the volume of the Medico-Chirurgical Transactions for 1876 I have written a paper, in conjunction with Mr. William Murrell, on the true nature of tetanus. We have endeavoured to show by experiment that in the cord and brain there exists a resistive power whereby impressions, conducted by afferent nerves, are restricted to certain areas, and prevented from spreading throughout the cord or brain. We further tried to prove that in tetanus this resistive power in the reflex portion of the cord is diminished or destroyed; hence an impression conducted by an afferent nerve diffuses itself throughout the cord, and nervous force being set free from every part of the reflex portion of the cord, all the muscles become contracted, and instead of a natural co-ordinated reflex action we get tetanus. I give a short *résumé* of our experiments and arguments.

Tetanus is said to be due to an excited or exalted condition of the cord; that strychnia and other tetanising agents stimulate the cord. Now if the cord were merely stimulated we should get increase of natural co-ordinated reflex acts, and not tetanus; but in a paroxysm of tetanus the muscles of the body are all contracted, and it is therefore evident that in tetanus a stimulus excites a discharge of nervous force throughout the reflex region of the cord. Moreover, were the cord merely stimulated in tetanus, as the reflex function of the cord declines tetanus should give way to normal co-ordinated reflex action; but this is not the case, for the tetanic convulsions from strychnia at last grow weaker and weaker, but continue till the animal dies.

Certain poisons, like gelseminum and buxus sempervirens, produce at the same time both weakness of natural co-ordinated reflex action (cord paralysis) and tetanus. Thus, in the case of these drugs, soon after poisoning, the reflex function becomes much weakened, then distinct tetanus occurs. At first we can excite either a co-ordinated or tetanic reflex act according to the strength of the stimulation: a weak stimulus producing co-ordinated reflex action; a strong stimulus, tetanus. The co-ordinated reflex action then grows weaker and weaker, proving the growing weakness of the reflex function of the cord. Next, tetanus declines in strength, but continues till all reflex action is destroyed. In such a case it is impossible that the tetanus should depend on stimulation of the cord; for we have seen that the tetanus was preceded by considerable depression of the cord, and continues till the depression ends in extinction of all cord function. It is obvious, therefore, that tetanus may occur in a cord whose reflex function is greatly weakened, and we must admit that in gelseminum-poisoning an impression or stimulus, say, on the skin, excites contraction of all the muscles because the resistance in the reflex portion of the cord is weakened or destroyed; so that the stimulus diffuses itself throughout the cord instead of being restricted to a limited portion as in health. Strychnia only paralyses the resistive force, and produces strong tetanus; but gelseminum paralyses both reflex and resistive functions of the cord, yet excites only weak tetanus.

We divided the spinal cord of frogs opposite the occipito-atlantal membrane, and, to prevent bleeding, we pushed a wooden peg through the incision into the cavity of the skull, destroying the brain. In these frogs reflex action continues for several days. We observed that soon after, but sometimes before, co-ordinated reflex action began to decline, on striking the animal between the shoulders the legs were shot out in a tetanic manner; that, as co-ordinated reflex action further declined, tetanus increased and became distinct. At this time, as in the case after poisoning by box or gelseminum, a moderate stimulus, like pinching the toe, excited natural co-ordinated reflex action; but stronger stimulation produced tetanus. The tetanic spasm in some cases lasted from half to three-quarters of a minute, and was so strong that we could hold the animal out horizontally by one leg. The tetanus was always at its height a few hours before all reflex action ceased, so that we could foretell the speedy abolition of reflex action by the onset of strong tetanus. Here it is impossible that the tetanus could depend on stimulation of the cord, for it occurred in a dying cord, and tetanus is most marked shortly before complete extinction of reflex function. The tetanus must be due to diminution or extinction of the resistive power enabling the stimulus to traverse the whole cord. It may perhaps be said that the tetanus depends on the production of meningitis through the operation of dividing the cord—a supposition highly improbable.

So much for our joint experiments. And now I propose to show their application to the theory of nervous diseases.

I venture to suggest that, besides tetanus, other explosive neuroses, like migraine, epilepsy, neuralgia, asthma, &c., are best explained by the supposition that a loss of resistance occurs in certain portions of the central nervous system, whereby impressions conducting to these parts spread beyond their normal area, and produce the various symptoms of these diseases. It will soon be seen that the theory of migraine, epilepsy, &c., that I now advocate differs but slightly from that expounded with so much learning and ability by Dr. Liveing; but though the difference be slight, yet I venture to think that my view embraces and accounts for a large number of phenomena. On page 336 of his classical work on Migraine, he says: "The fundamental cause of all neuroses is to be found, not in any irritation of the visceral or cutaneous periphery, nor in any disorder or irregularity of the circulation; but in a primary, and often hereditary, vice or morbid disposition of the nervous system itself: this consists in a tendency on the part of the nervous centres to the irregular accumulation and discharge of nerve-force—to disruptive and inco-ordinated action in fact; and the concentration of this tendency in particular localities, or about particular foci, will mainly determine the character of the neurosis in question. The immediate antecedent of an attack is a condition of unstable equilibrium and gradually accumulating tension in the parts of the nervous system more immediately concerned, while the paroxysm itself may be likened to a storm by which this condition is dispersed, and equilibrium for the time restored." At page 390, he says, "The whole group of disorders to which migraine belongs have their foundation in a certain tendency of the nervous system, for the most part innate, and often hereditary, to the irregular accumulation and discharge of nerve-force, which is manifested from time to time in phenomena of a more or less explosive character, whether sensorial, motor, ideational, or organic."

I shall make myself better understood if I apply this theory to the explanation of the phenomena of an attack of migraine. I shall consider first the common form, where the symptoms are supra-orbital headache with nausea or vomiting. In a paroxysm with these symptoms there occurs an evolution of nervous force first in that part of the nucleus of the fifth nerve in connexion with the supra-orbital nerve; the discharge then travels backwards, and involves the centre for vomiting. According to the view now advanced, there is diminished resistance in the nervous structures between these parts, so that a stimulus causing a discharge of force by the fifth nerve can pass backwards and involve the centre for vomiting. It may be urged that, according to this theory, any discharge of force in the nucleus of the fifth nerve should travel to the centre for vomiting, and produce nausea or vomiting; but this is not the case, for if the loss of resistance is slight, only a strong discharge in the fifth nucleus can overstep its usual limits and reach the centre for vomiting. Now, the strength of the discharge depends on the amount of nourishment

(potential force) of the nucleus of the fifth, or on the strength of the stimulus converting the potential into kinetic force, chiefly on the amount of potential force. In a paroxysm of migraine, the potential force accumulated by nutrition being discharged, the parts become weakened or depressed, and time is required for nutrition to supply the lost discharged force; and till by nutrition the potential force has accumulated to its original amount, each stimulus conducted to the fifth is limited to the part of the nucleus naturally associated with it; but when the potential force has accumulated to a sufficient extent, then the discharge overcomes the weakened resistance and reaches the centre for vomiting.

In Dr. Liveing's view there is an excessive accumulation of force; on this view there is no excess of force, but less restraining or limiting power, whereby a normal but strong discharge can spread beyond its natural limits, and induces a discharge in neighbouring parts.

Migraine may be considered a neuralgia of the supra-orbital nerve; but diminished resistance is not confined to part of the centre for the fifth nerve, but may extend backwards and involve the centre for vomiting. This view will explain the conditions favouring the attack better, I think, than that supported by Dr. Liveing.

Among the most powerful predisposing causes of a paroxysm of migraine are a depressed state of health, especially of the nervous system, anxiety, and worry. In those liable to these attacks, a mental shock or a slight fright is often sufficient to precipitate a paroxysm. According to the view now advanced, the depressed state of the nervous system still further weakens the resistive force, so that an attack is more readily induced.

It is well known that a repetition of paroxysms of migraine and other neuroses favours the recurrence of the paroxysm. It is difficult to understand how a repetition of attacks should favour an excessive accumulation of force, but each attack will tend still further to lessen the weakened resistive force, and the more rapid the recurrence of the attacks the greater their weakening effect on this force.

This view also explains the periodical occurrence of these attacks. After a paroxysm, the potential force is much exhausted, so that the evolution of force in the depressed area produced by an ordinary stimulus is unable to overcome the weakened resistance; but as soon as there is a sufficient accumulation of potential force, an attack occurs. Thus, the interval between the attacks will depend on the amount of weakening of the resistive power. When, by ill-health or worry or grief, the resistance is much depressed, the attacks will recur frequently—every week, nay even daily. According to this view, we should not expect the interval between the paroxysms to be always exactly the same, for the strength of the resistive power will vary from time to time. Again, when the loss of potential force is almost restored, an unusually strong stimulus will set free sufficient nervous force to overcome the resistance and to extend to other centres. It is well known that in the explosive neuroses, whilst some symptoms are constant, others are very inconstant, being absent with many patients; even in the same patient they are absent in some attacks, but occur in others. Thus, in migraine, headache and sickness are the most constant symptoms; but, in addition to these, we sometimes get obscuration of sight or spectra or both, also temporary impairment of the mental faculties, perhaps hemiplegia—numbness and tingling of the same side as the headache, affecting the arm or the tongue or even the leg. In some cases the heart is slowed, and in a case under my care the attacks, after several years, caused intermission of the pulse once in about every five beats; the intermission ceasing immediately the attack declined. In another case, when the pain became severe, there occurred a profuse watery discharge from the nostril of the same side as the headache, and in very severe attacks a slight discharge came also from the other nostril.

In such cases the loss of resistance involves a larger area than when the only symptoms are frontal headache and nausea. The diminution of resistance, however, is not equally great in all the affected parts; thus, it is most marked in the nucleus of the fifth and in the structures between it and the centre for vomiting, but less marked in the other affected parts, passing, perhaps, gradually into a normal amount of resistance. In such a case only the severer attacks can spread to the parts endued with only slight loss of resistance; hence in some attacks the symptoms will be fewer than in others. As a rule, the symptoms are most numerous when a longer time than usual has intervened between the attacks, for then the increased interval allows a greater accumulation of potential force; hence, when the attack is excited, a great amount of nervous force is set free, able to overcome the only slightly reduced resistance, and spread further than a milder attack.

Thus, to apply once more this view to an attack of migraine, if the resistive power is reduced over an extended area, then the symptoms will be more numerous, the nature of the symptoms depending on the direction the diminished resistance takes and the extent of area involved; thus, if the diminished resistance extends to the inhibitory centre for the heart, then the pulse is slowed, and even made intermittent; if it reaches part of the vaso-motor centre, then we get those changes in the vessels of the face so well described by the authors quoted by Dr. Liveing; if it reaches the secretory centre for the lachrymal gland, or for the mucous membrane of the nose, these secretions will be increased.

The following is a concise *résumé* of the views just propounded. In the explosive neuroses there is a diminution of resistive power, the nature of the symptoms depending on the part and extent of the nervous system affected; the degree of loss of resistance varying much in individual cases. When the potential force in the part with diminished resistance is weak, the remaining resistance is sufficient to restrain the evolution of force within its normal limits; hence we get co-ordinated normal action. But when sufficient time has elapsed the accumulation of potential force through nutrition becomes so great that when set free by a stimulus it cannot be restrained by the weakened resistance, but, overstepping its normal boundaries, it involves neighbouring parts, arousing in them irregular inco-ordinated action; in fact, the symptoms of the neurosal attack.

Cavendish-place, W.

NOTE ON THE

IMMEDIATE CURE OF PILES.

BY H. A. REEVES, F.R.C.S. EDIN.,

ASSISTANT-SURGEON AND TEACHER OF PRACTICAL SURGERY AT THE LONDON HOSPITAL, SURGEON TO THE HOSPITAL FOR WOMEN.

DURING the latter part of last year I commenced the treatment of piles about to be described, and having now submitted eighteen cases to this new method, and sufficient time having elapsed to form a fair judgment as to the result of most of the cases, it is time to make the simple operation more public, so that others may try it, and report their results. All the patients operated on suffered from the severer form of internal piles, and four of them were bad cases—i.e., the piles were very large and ulcerated in large superficial patches, and the general condition was distressing, as there were anæmia and haggard aspect due to hæmorrhage and pain.

To this rapid method of treatment I have applied a term used by Mr. Barnard Holt, and now so well known to the profession—viz., the *immediate* cure; and I have used the word *cure* advisedly, as the first batch of patients have not had the slightest trouble since they were operated on. The last five cases are too recent to say anything as to ultimate results.

I feel that the term "immediate" is more strongly applicable to this method than to that of Mr. Holt, for not only is the operation rapid, but the *entire treatment* is very short as compared with the ordinary methods of treating hæmorrhoids—i.e., by nitric acid, ligature, or clamp and cautery.

In the *immediate treatment* of urethral stricture—excellent as I have come to regard it in fit cases—the operation is speedy, and in the majority of cases safe; but the *treatment* is very prolonged—nay, life-long; and the *cure*—well, never. In the *immediate cure* of piles, I can truly state that, so far as my present experience goes—and this can be corroborated by several witnesses and by the patients also—the operation

is rapid and trifling, and may in some cases be done without anæsthetics; it is unattended with the least risk, and the *cure* permanent.

The operation is simply this. The piles being well down, they are punctured with the conical pointed end (which I have had made by Messrs. Mayer and Meltzer to fit on to Dr. Paquelin's gas cautery, and which is figured in Mr. Joseph's paper in a recent number of THE LANCET) to their bases, the number of these hot punctures varying with the number and size of the piles, a pile the size of half a small walnut requiring two or three. A dull-red heat should be used, and the point gently rotated while being extracted, and *not pulled out*, because if this be done a portion of the eschar will be withdrawn with the instrument, and some hæmorrhage will follow. Should the disease be of old date, some of the piles will be quite hard; these I have pierced to their softer attachment, at the feeding veins of which they were clot-laminated, and even fibrous varicose transformations. Ulcers and fissures in connexion with the hæmorrhoids were touched with the cautery.

If this simple plan be properly followed, there is no hæmorrhage, but should there be slight oozing, a touch of the cautery at once stops it; the piles are then returned, and a half-grain morphia suppository introduced. The bowels are kept confined by a quarter of a grain of morphia daily, by mouth or subcutaneously, for the first two or three days, and on the fourth or fifth day an enema-tube is gently introduced and a warm injection given, and followed on the succeeding day by a laxative. The first two, or in some few cases three, motions, produce pain, but nothing as compared with that the patients suffered *before* the operation; and at the expiration of a week they are discharged, with such directions as to diet and regimen that will promote the healthy functions of the rectum, and which are known to all professional men.

It is right to state that two of these eighteen cases were not allowed out for ten days, and one for a fortnight, but in all there was some other pre-existing complication, either urinary or uterine. Sixteen of them were treated at the Hospital for Women, and two in private. I have seen them all several times since, and examined them with finger and speculum, and I can say that the satisfaction of the patients at their rapid and permanent relief is not greater than was mine when I observed how little damage was done to the rectum, as evidenced by the difficulty of detecting, some little time after, any result, in the shape of cicatrices, of the operation. The ages of the patients varied from twenty-three to sixty.

I am happy to say that I have not yet had an opportunity of examining post mortem any case operated on, but I conceive that the *rationale* of the method is that the igni-puncture sets up a phlebitis which soon leads to obliteration of the diseased veins; that the phlebitic clot is, somewhat rapidly, sufficiently absorbed, or so altered as to render it difficult for the finger to detect any nodules or lines of thickening in the rectum. Whatever the traumatic pathological change may be, certain it is that the *symptomatic* relief is not only speedy but lasting. I may mention that I had occasion to operate on a patient for urethral mischief, who had undergone this procedure for piles three weeks previously, and neither I nor others present could discover the least trace of any recent operation on the rectum.

I do not wish it to be thought that I consider the operative results, as regards nodulation and disappearance of the altered piles, will always be so rapid; this may or may not be so without affecting that which the patient and the surgeon most desire—viz., the cure of the case. I briefly sum up what I consider the advantages of this method over the old plans.

1st. The operation is quickly done.

2nd. The cure is much more speedy, as, by the ligature or clamp and cautery, three weeks is considered quick time for convalescence.

3rd. There is no fear of secondary hæmorrhage, as there is no ligature to separate, and no wounded surface to cauterise.

4th. Nothing is removed. To the patient this is very often a strong recommendation; to the surgeon, at first and without experience of this method, it may seem a drawback, but sufficient trial will convince him to the contrary.

5th. There is no apprehension of secondary abscesses and fistulæ so far as my experience has gone.

6th. There cannot possibly be a stricture as a result of the operation. That this has occurred several times after the old methods no one can gainsay, and I may quote a case sent me by Dr. Heywood Smith, on which I operated by the clamp and cautery, and only removed the piles and not a particle of other rectal tissue, and in seven weeks had to commence the use of bougie for an annular stricture near the orifice. Nothing of the kind pre-existed.

7th. There are no relapses. Two of the cases I operated on had been elsewhere treated by ligature, and the other with clamp and cautery. Of course, if all the diseased part be not punctured at the time of operation, the portion left untouched may be the source of future trouble, necessitating an operation, and it may be that this was the explanation of the relapses in the two cases just mentioned. On the other hand, it is fair to state that other veins, already weak at the time of operation, but not sufficiently so to attract attention, subsequently enlarged and required meddling with.

8th. In patients who can bear a little pain no anæsthetics are necessary, as the operation is a quick one.

It is obvious that this plan can be applied to other varicose veins and to nævi.

Before concluding I may mention that I have, in two cases, tried the revived plan of sudden dilatation of the sphincters; one did moderately well, the other had to be igni-punctured. I have, in one case, injected the piles with solution of perchloride of iron undiluted, but the result was not satisfactory. I believe, however, that a weaker injection of iron, or of water and iodine, or of chloral, would be effectual, and have the advantage of not needing anæsthetics.

Finsbury-square.

ON THE USE OF ESMARCH'S ELASTIC CONSTRICTOR IN AMPUTATION OF THE HYPERTROPHIED CERVIX UTERI.[1]

BY A. L. GALABIN, M.A., M.D.,
ASSISTANT OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL.

OF all the methods which have been usually employed for the amputation of the hypertrophied cervix uteri, the use of the galvanic cautery écraseur has of late obtained a preference which I believe in the main to be thoroughly well deserved. As compared with the old-fashioned chain, or with the wire or wire-rope écraseur, its advantages are manifest. For when the cervix uteri is the subject of chronic engorgement and hypertrophy, or areolar hyperplasia, its tissue becomes, in the later stage of the process, extremely dense and hard. When this tissue is compressed in the loop of cold wire, the resistance, in some cases, becomes enormous, and even wire of considerable strength may be repeatedly broken in the attempt at removal. From the same cause arises the danger of injury to the bladder or peritoneum. Thus it has happened that even distinguished gynæcologists and skilful operators have recorded cases in which they have been so unfortunate as to lay open both the pouch of Douglas and the bladder, or one of these cavities, in amputating the cervix by means of the écraseur. It has been supposed by some that the effect of the great tension is forcibly to draw into the range of the wire-loop tissues not originally encircled by it, and that the accident has happened in this manner. I can scarcely see, however, how such a result could be mechanically possible, unless the cervix itself, at the point encircled by the wire, had a conical shape, with its broader part downwards, so that the whole wire-loop would tend to slip upwards as it became tightened; but I think there is no doubt that by the extreme constriction great dragging is produced upon surrounding parts, and that the bladder or peritoneal cavity has, in some cases, been actually torn open in this manner, without having been ever included within the circle of the wire. Another drawback to the use of the common écraseur is that it affords by no means an absolute safeguard against even

[1] Read at the Hunterian Society, Jan. 24th, 1877.

considerable hæmorrhage, and that its use has therefore occasionally to be supplemented by the application of the actual cautery, or of plugs with perchloride of iron.

From the risk of endangering the bladder or peritoneal cavity the galvanic cautery is free, provided that the wire of the écraseur has been originally adjusted in a safe position; and, with due regard to a sufficient heating of the wire and a suitable slowness in tightening it, it may be made to afford an absolute security against hæmorrhage. The galvanic cautery itself, however, is not without certain disadvantages. First among these may be reckoned the fact that it is not procurable except in large cities; and that its mechanism is apt to get out of order, so that it may be found to fail to work, or to afford a sufficient heating power, just at the moment of greatest need. Moreover, the charred surface of the section must cast off a superficial slough, and a long process of healing must ensue, while the surface is granulating and the mucous membrane slowly extending over it from its margins. The vaginal discharge generally becomes offensive at the time that the slough is separating; and it is probably on this account, from the absorption of some septic material, that a slight periuterine inflammation is occasionally set up, although I have never observed any more serious result than this to happen.

Another unfortunate sequel which occasionally follows from the use of the galvanic cautery is that the granulating surfaces may tend to adhere, and so produce contraction or complete occlusion of the remaining part of the cervical canal. I have recently had an example of this kind in the case of a patient about forty years of age, from whom I removed an epithelioma of the cervix uteri by means of the galvanic cautery écraseur. The uterus at the time was free from any fixation to surrounding parts, but the cervix at the point of section was much broadened; and although it was a question how far this might be the result of a simple hypertrophy due to the stimulus of the adjacent disease, I had but little hope that I had succeeded in getting above the limits of the malignant growth. About a year after, the patient returned to the hospital, complaining of severe periodic pains, which recurred every month, and lasted from one to two weeks. The vagina was now found to form a perfectly small vault, in which only a minute cicatrix indicated the point where the cervix had been amputated. The uterus, not much distended, was felt above as a small round movable body, but nothing like a cervix could be made out. As the patient was not far from the usual climacteric period, I decided, with the advice of Dr. Braxton Hicks, not to interfere by any operation, unless the distension of the uterus should increase, or the pain become more severe. Six months after the patient again returned. The uterus had now become as large as a small orange; the pains still returned every month, but were longer in duration, and so severe that frequent hypodermic injection of morphia had become necessary. I therefore passed a bistoury into the uterus at the point marked by the cicatrix, evacuated some treacly fluid, and enlarged the opening sufficiently to admit a conical dilator, one-fifth of an inch in diameter. The patient had transient symptoms of peritonitis, but was soon convalescent, and menstruation has since recurred normally. There is still no sign of any cancerous growth remaining.

I have not as yet met with any cases in which occlusion of the cervix has followed amputation by the galvanic cautery for simple hypertrophy, but I believe that such have been observed. The occurrence is, no doubt, an exceptional one, but it is so far a danger to be taken into account that Dr. Barnes recommends that an intra-uterine stem-pessary should be introduced for a month after the operation, in order to prevent its taking place. It must be obvious that the introduction of an intra-uterine stem immediately after any operation upon the cervix must tend to increase whatever risk there may be of uterine or peri-uterine irritation, and that any mode of operating in which this need is avoided would so far be preferable. I think, therefore, that it may be worth while to examine the other modes of amputating the cervix, even if they should prove as much open to objection as the galvanic cautery, if only for the sake of practitioners in the country who live beyond the reach of that valuable instrument, or of patients in town who are too poor to afford the extra expense incurred by its use.

To the old methods of amputation by cutting instruments, to that by means of scissors, and still more to that by the knife, the main objection is the difficulty of restraining the hæmorrhage, since the usual means of doing so, by means of torsion or ligatures, are rendered impossible on account of the dense tissue within which the vessels are embedded. Hence it is generally necessary to make use of styptics or the actual cautery, and by this means a slough of the incised surface is produced, and the resulting disadvantages in the sequel are at least as great as after the use of the galvanic cautery écraseur. A far better method, if it can be carried out, is that proposed by Dr. Marion Sims. His plan is to dissect up flaps of mucous membrane from the external part of the cervix, and, after cutting off transversely the redundant portion, to stitch down the flaps upon the incised surface. The object of this method is not merely to avoid a protracted suppuration and cicatrisation by covering the raw surface with flaps, but by their means to apply sufficient pressure to arrest the hæmorrhage. Its disadvantage is that it occupies some time to execute it, and that in some cases profuse hæmorrhage may be going on all the while until it is completed. A slight modification of the method has been introduced by Prof. Hegar. He cuts his flaps half from the mucous membrane of the exterior of the cervix, half from that of the cervical canal, so that the two meet near the centre of the incised surface. In passing the sutures he brings the thread to the surface for a short space near this point of junction, midway between the two margins, so as to cause an infolding of the dense tissue of the cervix. By this plan he believes that the hæmorrhage can be more effectually arrested than by that of Sims. In order to control the bleeding during the course of the operation, which necessarily occupies somewhat longer according to this method, a more complex one than that of Sims, he recommends that the cervix uteri should be encircled and constricted by the serre-noeud made by Cintrat of Paris, an instrument resembling a small écraseur. With the same object Dr. Emmet has introduced an instrument which he terms the uterus tourniquet, whereby, with the aid of a double cannula, the cervix is surrounded by a band of elastic watch-spring, which can be tightened at pleasure.

(To be concluded.)

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

CHRONIC OTORRHŒA; NECROSIS OF TEMPORAL BONE; SUPPURATIVE INFLAMMATION OF DURA MATER; SUPERFICIAL CEREBRITIS; DEATH.

(Under the care of Dr. FINCHAM.)

For the following notes we are indebted to Mr. Howard Cane, house-physician.

George G——, aged twenty-three, a signalman, was admitted on Nov. 24th. He stated that twelve years ago he had scarlet fever, and from that time he had had a discharge from the left ear, associated with more or less deafness, which had increased very much of late. The discharge had varied greatly in quantity and quality from time to time, being sometimes very profuse and at other times scarcely perceptible; but it had been persistently copious for many weeks. During the last month he had had a great deal of anxiety at his work, and had for a fortnight to attend to his arduous duties while suffering pain in the left ear and left side of the head. The pain was not, however, very severe until four days ago, when he noticed for the first time jumping pain in the left side of the face and head, shooting from the forehead backwards to the occiput, and

accompanied with a sensation of throbbing in these parts. During these four days he had vomited several times daily, but without much retching. He had had no sleep for days.

He looked very ill, had an anxious expression, and complained of intense pain in the left side of the head, shooting through the occiput, and of a heavy darting pain in the left eye. The pupils were equal, and reacted to light. There was a fetid discharge from the left ear. The tongue was covered with a thick white fur. Breath very offensive. Bowels constipated. Pulse 84; temperature 101·2°; respiration 20. Ordered two pills containing mercury, colocynth, and hyoscyamus immediately, to be followed by a compound senna draught in the morning; the ear to be syringed out with a warm, weak carbolic lotion (1 in 80), and a linseed-meal poultice to be applied over the ear. Thirty grains of bromide of potassium were given, to be repeated in three hours if sleep was not procured.

Nov. 25th.—Passed a restless night and slept but little. At 2 P.M., when first seen by Dr. Fincham, he still complained of pain in his head, and seemed disinclined to speak, being irritable and appearing annoyed at being disturbed. When questioned, he answered abruptly, and then shut his eyes and buried his head in the pillow. A blister was put behind the left ear. Ten grains of bromide were given every six hours. Pulse 84; evening temperature 101·6°.

27th.—Patient has remained much the same for the last two days. The pain in the head still continues very bad, but is less than on admission. A hot sponge has been substituted for the poultice. He has slept slightly better. Evening temperature 100°; pulse 84. Bowels not opened since the morning of the 25th; to take two ounces of compound senna mixture immediately.

29th.—He is restless and irritable when spoken to, answering questions in an impatient and querulous manner, and keeping his head buried in the pillow. The pain in the head, which had been somewhat better, has now increased. He has an expression of great pain. His appetite is bad; tongue furred; breath offensive. Bowels have not acted since last dose of medicine; ordered another dose of compound senna mixture. (This operated but slightly.) To continue as before. The temperature this morning had risen to 102·4°, and continued so in the evening; pulse 96; respiration 20.

Dec. 1st.—Patient has passed a very restless night, and there is now a great difficulty in rousing him, as he seems to be in a state of semi-stupor; constipation very obstinate, requiring constant purgatives. Pulse 96, very feeble; evening temperature 103°.

2nd.—Patient continues to get worse, all the symptoms detailed increasing in severity; stupor is deepening, and patient has a difficulty in expressing himself, appears to be very much confused, and does not give rational answers to questions put to him. Bromide of potassium increased to twenty grains, to be taken as before. To continue with syringing the ear, and the application of a hot sponge wrung out of hot carbolic lotion; discharge has continued up to this time, and has gradually increased; it is of the same fetid character as on admission, if anything this being more marked. Pulse 90, very weak. Temperature: morning, 103°; evening, 102°.

3rd.—Patient continues to get worse. Temperature, which was this morning 101·4°, has risen this evening to 104°; respiration 24; pulse 96. The discharge has slightly diminished in quantity, but the fetor has increased; does not speak at all, and is with difficulty got to take any nourishment, falling into a state of deep stupor immediately after being roused; bowels still very constipated. Evening temperature 104°; pulse 98; respiration 24.

4th.—Patient was delirious all night, tearing the bandage off his head, and getting out of bed several times. Was ordered thirty grains of bromide, to be repeated in two hours if not quieter. This relieved him slightly, and he became much quieter after. This morning he is very drowsy, and no sensible answer can be got out of him. The pupils act to light, but the eyes have a very vacant and meaningless expression. The only words he seems able to articulate are "I say," which he says in answer to any question, and keeps on repeating them a great many times. Breath very foul; bowels constipated. Pulse 90, very weak; respiration 20. Evening temperature fallen to 99·4°.

5th.—10 A.M.: Patient passed a quieter night, and seems much the same as yesterday. Appears sensible, but is quite speechless when spoken to. Puts his *right* arm up to his head. Ordered two ounces of compound senna mixture. At 1 P.M., when he was again seen, he was found to have complete paralysis of the right arm and leg, and also of the muscles of the lower part of the right side of the face, the mouth being drawn to the opposite side. He cannot swallow anything, and when any liquid is put into his mouth it runs out at the corners. He has lost all power of speech, and appears quite insensible. Ordered a turpentine enema, as the bowels had not yet acted, and ice-bags to head constantly. No medicine or anything else could be administered by the mouth. Bowels were moved involuntarily three times this evening.

6th.—Patient continues to get worse. Rattling in trachea came on last night, and has continued ever since. He is quite insensible. At 2 P.M. there was twitching of the muscles of the side of the face; at 8 P.M. he died, the temperature having fallen to 98·4°; pulse 80; respiration 16.

Autopsy, eighteen hours after death.—Body somewhat emaciated. On opening the head the right side of the dura mater was seen to be very much congested, and the left appeared of a dirty yellow colour; over the frontal and fore part of the parietal lobes of this side a distinct bulging was observed, which, on touching with the fingers, gave the sensation of marked fluctuation. On cutting through the dura mater of this side, about five ounces of healthy-looking pus, but having a very fetid odour, escaped. On throwing back the left half of the dura mater the whole of the cerebral hemisphere was seen to be covered with a layer of pus, and on washing this off there adhered to the surface a yellowish lymph-like substance which could be peeled off, and looked like the lymph seen on the pleura in a case of recent pleurisy; this extended all over the top and sides of the hemisphere, but did not go to the base of the brain. This was carefully peeled off, and then the surface of the hemisphere appeared of a greyish green colour, and the convolutions were much flattened, especially over that part corresponding to the position of the bulging seen before removing the dura mater. On section the grey matter appeared of a greenish colour, but this extended to an unequal depth, being only half through the grey matter behind, but gradually extending more deeply inwards as it was traced towards the depression on the surface of the brain, formed, no doubt, by the pressure of the pus, and over this situation the green colour extended quite through the thickness of the grey matter, and also for about one-third of an inch into the white substance. The other parts of the left hemisphere appeared healthy, and the right side presented nothing abnormal. Just over that portion of the petrous portion of the temporal bone which marks the situation of the tympanum, a discoloured patch was seen; this was very ragged-looking, and a probe when pressed on it sank in readily. A curved probe was then passed through the external auditory meatus, and the end was projected out through this aperture. The tympanum was opened, and was found to consist of a cavity of a dirty green colour, and smelt horribly; none of its structure could be made out; all that could be seen to represent the membrana tympani was a ragged edge of membrane. Heart normal, but the right side contained a large ante-mortem clot. Lungs much congested, lower halves being greatly engorged and crepitating, but slightly floating in water, and on section a large quantity of bloody serosity escaped. Liver, spleen, and kidneys much congested, otherwise normal.

Observations.—This case well illustrates the ordinary symptoms and post-mortem appearances found where there is inflammation of the dura mater in connexion with disease of the ear. It shows, too, how utterly powerless are all remedies to arrest the course of the brain symptoms when they have once become developed, and that in such cases the worst prognosis should be given. It shows, also, how erroneous is the notion, still sometimes held, that as long as the purulent discharge from the ear continues unabated there is but slight risk of intracranial complication. As regards this last point, it is true that sometimes the brain or its membranes may become affected on the sudden stoppage of an otorrhœa, or, again, where there has been an unusually long, although it may be a gradual, cessation of an accustomed discharge. In Abercrombie's classical work on Diseases of the Brain, much variety as regards both the quantity and period of the purulent discharge, when followed by intracranial inflammation, may be seen.

Experience, however, does not show that a constant free discharge from the ear can exist without the risk of the gravest brain mischief being set up at any time, and often without any apparent exciting cause. The practical character of this truth is now recognised by most life assurance offices, whose directors regard with great suspicion applicants suffering from chronic otorrhœa, and either reject them altogether, or only accept such lives at a very notably increased premium.

LONDON HOSPITAL.

STRANGULATED INGUINAL HERNIA IN A FEMALE; REDUCTION EN MASSE; OPERATION WITHOUT OPENING THE SAC; FÆCAL FISTULA; RECOVERY.

(Under the care of Mr. RIVINGTON.)

THE following report has been compiled from notes taken by Mr. Oxley, the dresser.

Mary E——, aged forty, was admitted on Thursday, the 1st of June, 1876. She stated that as she was washing on the previous Monday, May 29th, she became suddenly very faint with severe twisting pain in the inguinal region. She had not had a rupture before, and had never worn a truss. Vomiting came on and, continuing for two days, a medical man was sent for, who tried to reduce the swelling, which she described as descending obliquely inwards to the labium. The swelling disappeared, but the symptoms continued, and the patient was sent to the hospital. Mr. Neves, the house-surgeon, recognising the nature of the case, sent at once for Mr. Rivington, who found a small hard swelling above the centre of Poupart's ligament, scarcely prominent, but evident to the touch. Without delay the patient was taken to the operating theatre. Ether was administered by Mr. Neves. An incision, about two inches in length, was made over the inguinal canal, and the external inguinal ring was reached and enlarged. With the index finger the inguinal canal was explored and the hernial sac found turned downwards towards the pelvis at the internal ring. On bringing it into view a tight ring of transversalis fascia was found tightly constricting the neck of the sac, and as the division of this ring permitted the reduction of the contents, which apparently consisted of a knuckle of bowel and omentum, nothing more was done. The edges of the wound were brought together at the upper part and a drainage tube inserted below.

June 2nd.—Passed rather a restless night. Temperature 99·4°.

3rd.—Slept very well. No pain; takes nourishment well—slops, &c. Temperature 99·2°; pulse 80.

4th.—Wound irrigated and stitches removed; only a little discharge. Temperature 99·6°. Doing very well. An enema was given, and the bowels were opened.

5th.—Wound healthy. Temperature 98·8°. The house-surgeon ordered half an ounce of castor oil.

6th.—Bowels opened once; not much discharge from wound; some pain over the abdomen.

8th.—Edges of wound separated; free discharge, with a decided feculent odour, and containing some clots of blood. Evidently ulceration of the intestine had occurred at the seat of stricture.

9th.—Discharge decidedly fæcal, yellow, and containing semi-digested food; flatus passes by the wound; no signs of peritonitis; patient otherwise comfortable. Temperature 99°.

12th.—Patient uncomfortable from erythema round the wound. Temperature 102°, and considerable thirst; tongue clean; no sickness or pain in abdomen. Patient kept on fluid diet.

13th.—More fæcal matter than usual passed through the wound.

15th.—No increase of fæcal matter; wound closing and contracting, and patient says she could eat a chop or two, but is kept on fluid diet for the purpose of allowing the aperture in the bowel to close.

17th.—Surface round wound improving.

22nd.—Wound much smaller, and in process of closure; progress very satisfactory, and discharge slight.

July 1st.—Wound all but healed; no further discharge of fæcal matter.

13th.—Patient well, and ordered a truss.

QUEEN'S HOSPITAL, BIRMINGHAM.

CASE OF PRIMARY AMPUTATION AT THE SHOULDER-JOINT.

(Under the care of Mr. WEST.)

THOMAS S——, aged fourteen, was admitted into the hospital at 11 A.M. on Dec. 1st, 1876. The patient's left arm had been torn off about six inches below the shoulder-joint by a circular saw. There was no hæmorrhage on admission, but the patient was very pallid from previous loss of blood.

Mr. West amputated the arm through the shoulder-joint, by the transfixion method, from behind forward, the flap being formed principally from the deltoid. The vessels were secured with catgut ligatures. Hardly any loss of blood occurred during the operation. Four silver sutures were put in, and the wound was dressed with lint steeped in carbolic oil; a drainage-tube was placed between the flaps, with its ends hanging from either corner of the wound, and outside the bandage, which was applied rather tightly over the face of the stump. After the operation the boy had some little pain, but no hæmorrhage. He was ordered ice to suck. Pulse 88; respiration 32; temperature 100·5°.

On Dec. 2nd the wound was dressed, under chloroform, with lint soaked in carbolic oil. The stump looked well; no redness and no tension on the sutures. Some serous discharge oozed out at the corners of the wound through the drainage-tube. There was a small spot of discolouration at the top part of the upper flap. He still took milk and ice. Pulse 108; respiration 32; temperature 102·2°. The wound was dressed again next day, the pulse then being 100, the respiration 28, and the temperature 100·4°. On the 4th the patient was making excellent progress; the pulse was 100, respiration 24, and temperature 99·4°. The wound was dressed daily with carbolised oil until the 9th, the sutures being removed on that day. By the 11th the wound had healed all along the edges. The drainage-tube was removed and shortened, only a short piece being put into the lower angle of the wound. Patient got up for an hour in the afternoon. Two straps of plaster were used to keep the flaps together, and the wound was dressed with oakum. Pulse 88; respiration 20; temperature 99·2°. On the 18th the patient began to sit up all day. There was a slight discharge. The drainage-tube was removed. Meat diet was now given.

The patient was discharged on Dec. 20th, with a very slight discharge of thin sero-pus from the lower angle of the line of incision. A little stypium was placed around the stump, and the boy recommended to go into the country.

Remarks.—The above case (reported by the senior house-surgeon, Mr. Wilkins) shows the advantage of regular dressing of stumps with the carbolic oil (one part in twenty of olive oil). Mr. West intended in this amputation to have used the carbolic spray, and to have treated the case antiseptically; but the steam spray-producers being out of order, it was decided at the last moment simply to dress the stump with lint steeped in carbolic oil, and to absorb any discharge that might ooze through the drainage-tube or the lips of the wound by stypium. So much success followed the daily dressing of the stump in this manner—hardly any suppuration occurring, and the patient being able to leave the hospital within three weeks of the operation—that Mr. West is induced to place the case on record. No better or more rapid result could have been obtained had Lister's method been carried out in its entirety.

BEQUESTS &C. TO MEDICAL CHARITIES.—Mr. Nelson Hewertson, of Newport, Mon., bequeathed half the "residue" of his estate, estimated to amount to between £20,000 and £30,000, to the Newport Infirmary, payable on the death of his wife. Mr. William Parker has given £840 to the West London Hospital, Hammersmith. Mr. Alfred Harris, of Tadcaster, has given £500 each to the Infirmary and the Fever Hospital at Bradford, Yorkshire, "in affectionate remembrance of a beloved wife." The Edinburgh Association for Incurables has received from the trustees of the late Mr. Longmore, W.S., Edinburgh, £10,000 for the erection of a Hospital for Incurables, and £300 a year for its maintenance.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE ordinary meeting of this Society was held on the 13th inst.; Mr. Chas. Brooke, vice-president, in the chair. The attendance of fellows was very small, owing to the counter-attraction elsewhere. An exhaustive paper, by Mr. Henry Morris, upon the anatomy of the hip-joint, with especial reference to dislocation, was read. In it Mr. Morris showed that the weakest part of the capsule of the joint was its lower half, and that all dislocations were necessarily preceded by a movement of abduction in which the head of the bone moved out of the acetabulum. An informal discussion arose at the close of the meeting out of an interesting and rare dermatological case brought forward by Dr. G. W. Evans, but time did not allow of its being fully discussed.

The following is an abstract of the paper on "Dislocations of the Thigh, their mode of occurrence, as indicated by experiments and the anatomy of the hip-joint," by Mr. HENRY MORRIS, M.A., M.B. An attempt is made to show that dislocations of the thigh on to the dorsum of the ilium never occur, as is usually stated, while the limb is adducted, unless the dislocation is complicated with fracture; that all kinds of dislocation take place while the limb is abducted; and that it depends upon the degree of extension or flexion, and of external or internal rotation associated with the abduction at the moment of accident, whether the head of the femur will be thrown forward or backward. The anatomy of the hip-joint, the results of experimental dislocations in the cadaver, and the positions of the body at the time when dislocation has actually occurred in the living, are adduced in support of this view. The conclusions arrived at in the paper are the following:—1. That the ilio-femoral ligament is a thickened triangular or fan-shaped area of the capsule of the hip-joint, and not a Y-shaped ligament, or a structure distinct from the rest of the capsule; that besides the ilio-femoral band there is a large portion of the capsule very thick and strong, and that if two lines be drawn, one from the tuber ischii to the top of the trochanter major and the other from the anterior inferior iliac spine to the trochanter minor, all the capsule between them above is thick and strong, whereas all below and between is thin and weak. 2. That the thickened portion of the capsule determines the kind of manipulation necessary for reduction, and should be relaxed by flexion and abduction during any attempt to reduce a dislocation of the thigh. 3. That the degree of extension or flexion, and of external or internal rotation, of the thigh at the time of luxation, determines whether the dislocation will be pubic, thyroid, sciatic, or dorsal; and that, subsequently, the "bridling" effect of the thickened portion of the capsule fixes and gives character to the dislocation. 4. That all dislocations of the thigh, uncomplicated with fracture, occur while the limb is abducted. 5. That posterior dislocations result when flexion and inward rotation accompany abduction, and the anterior when extension with outward rotation accompany abduction; while the downward or thyroid variety occurs during simple extension and abduction. 6. That by the movements of the usually successful methods of manipulation, the head of the femur is brought (by flexion, abduction, and reverse rotation) to the part of the capsule through which it was displaced—viz., to the lower and inner side of it. 7. That the new position of the head of the femur in the sciatic as in the dorsal dislocations is above the obturator internus muscle, though in both varieties the bone leaves the acetabulum through a rent in the capsule *below* the muscle; and that for these reasons the classification of the posterior dislocations into "dorsal above" and "dorsal below" the obturator internus, as made by Bigelow, and followed by others, is misleading, if not invariably incorrect. 8. That dislocation through a "button hole" is not possible, owing to the inelasticity of the capsule and the large size of the head of the femur compared with the width of the capsule from pelvis to femur; and that in the reputed cases of unsuccessful efforts at reduction of this sort, the real obstacle has been either a portion of muscle or of the capsule itself carried before the head of the femur into the acetabulum, or of a fragment of the head of the femur left in the acetabulum. 9. That the rim of the acetabulum of itself offers no real resistance to reduction. 10. That in the exceptional case of a direct dorsal dislocation the untorn muscles and capsule would resist reduction by ordinary manipulation, and that this resistance would be appreciable by the surgeon. 11. That direct dorsal dislocations, or those which are said to occur during adduction, are always the result of immense violence, and are always associated with fracture of the acetabulum, or of the head of the bone, or of both. 12. That violent pain in dislocations at the hip is caused by the sciatic nerve being pressed upon or looped up by the femur, and that pain or paralysis after reduction is due to dragging forward of the nerve upon the neck of the bone or to its rupture in the act of reduction. 13. That in reducing dislocations associated with great pain, it would be well to draw the head of the femur away from the side of the innominate bone during the movements of flexion and abduction so as to disengage the sciatic nerve, and thus prevent either of the accidents above mentioned.—Mr. WILLETT remarked that, valuable and interesting as such researches were, they had been anticipated by some twelve or fifteen years, at which time a continental professor (he believed Prof. Busch) paid a visit to England, and showed, like Mr. Morris, that dislocations of the hip only occurred in abduction of the femur, the occurrence of a sciatic, pubic, or dorsal dislocation depending more upon the position of the limb. Mr. Willett thought this had been generally accepted, and that the reduction of such dislocations by manipulation was founded upon this fact; and he referred to the instructions given for such measures in Holmes's "System of Surgery" as seeming to indicate a knowledge of the true manner in which the bone was dislocated. The views brought forward by Mr. Morris could, then, hardly be said to be novel; only they had been more fully delineated than previously, and the anatomy of the joint had been most carefully described.—Mr. MAUNDER contended that the mode of dislocation described by Mr. Morris was not generally accepted; but he considered that the latter had conclusively proved his case, and had shown that, in order to the production of any form of dislocation of the hip, the limb must be first abducted. As to originality, he could say certainly that the author of the paper was not aware of any previous explanation of the kind he had offered. Mr. Maunder mentioned also that even so acute an observer as Malgaigne speaks of dislocation of the hip from rupture of the lower fibres of the capsule as exceptional, and refers to a case in which unsuccessful efforts at reduction by extension were made. The man died a fortnight after from acute suppuration of the joint, and Malgaigne found to his surprise that the bone could be reduced by flexion, but not by extension, as the untorn portion of the capsule prevented it.—Mr. BARWELL said they must all agree as to the care and pains taken by Mr. Morris in working out the subject, and he had no doubt of the method he described being the only way in which dislocation of the hip was produced. Some years ago he met with a case of unreduced dislocation on to the dorsum ilii, for which he had to excise the head of the bone; it was in a miner, who, in stooping, had been struck on the sacrum with great violence, and in spite of a number of his fellows' attempts at forcible reduction, the dislocation persisted. Mr. Barwell dispelled the "superstitious idea" that was frequently entertained as to the ligamentum teres controlling dislocations, &c.; this structure was merely a fibro-vascular cord for the nutrition of the joint, and in one case he had seen, it, as well as the jib on the head of the femur, were congenitally absent.—Mr. MACCORMAC had frequently attempted experimentally to send the head of the bone out of the acetabulum at other parts except through the lower part of the capsule, and had never succeeded. He thought the explanation of dislocation by heavy weights falling on the back, the femur being at a right angle to the trunk, was probably to be found in the blow causing forcible abduction of the lower limbs. He inquired whether Mr. Morris had ever found the dislocated head of the femur to

be embraced by the obturator internus tendon, as Bigelow describes, and he referred to a case under his own care of so-called sciatic dislocation, in which, however, the head of the bone certainly did not pass below this tendon.—Mr. MORRIS, in reply, while admitting the probability of views similar to those expressed in his paper having been demonstrated by others, said that his own investigations had been conducted quite independently, and that he had been led to certain conclusions without being aware of Prof. Busch's opinions. There was no doubt of the fact that the latest English and American writers on dislocations taught that dorsal dislocations occur during adduction by the head of the bone being forced through the back of the capsule; so that, whether novel or not, the theory that all dislocations occur in a position of abduction, and that the head of the bone escapes through the lower half of the capsule, was not the doctrine as yet generally taught or known. That the movements of reduction by manipulation were usually directed and carried out on the principle of this theory Mr. Morris could not admit, as it was distinctly stated by more than one authority that the chief object of these movements was to relax the ilio-femoral ligament, the next to lacerate the untorn portion of the capsule, until by these means the head of the bone was brought away from the iliac attachment of the ilio-femoral ligament, and opposite to the least prominent part of the brim of the acetabulum, over which the head was then turned back into the cavity. The rarity of the opportunities of dissecting specimens of dislocation of the hip probably accounted for the long standing and continued prevalence of the view referred to by Mr. Maunder, as held by Malgaigne, that dorsal dislocations take place during adduction. Experiments on the dead subject are almost the only means available for ascertaining the kind and extent of injury, as well as the mode of occurrence of these accidents. There could be no doubt of the insignificance as a resisting structure of the ligamentum teres; its only function seemed to be to serve as a soft and flexible band, along which bloodvessels might reach the head of the femur. Certainly it never helped to support the body during extension of the trunk on the thighs, and by experiments it could be easily shown to offer next to no resistance to the displacement of the femur, from the dimple in the head of which it readily tore away—sometimes detaching with it a flake of articular cartilage. In answer to Mr. MacCormac, Mr. Morris said that he had looked through most of the pathological museums in London, and had not found a single specimen in which the head of the femur was embraced by the obturator internus muscle, and only one (a case in St. Bartholomew's Hospital museum) in which it had passed out of the acetabulum through an opening above that muscle, and in that instance fracture of the cup complicated the dislocation. In the museum of Guy's Hospital there was a specimen showing the strong pelvic portion of the capsule torn away from the acetabulum; the dislocation had taken place from a fall from a great height; and the head of the femur was split, as well as the rim of the acetabulum fractured: the shaft and neck, with attached portion of the head of the bone, had burst through below the obturator muscle. One of the chief objects of the paper was to give by demonstration a rational explanation of the method of reduction by manipulation, whereby it was seen that for each kind of luxation the movements were such that the head of the femur was brought down to the cotyloid notch, opposite which the capsule was invariably torn, and then, by a rotation *the reverse* of that which had determined the forward or backward position of the displaced bone, to return the femur through the original rent in the capsule. Another was to prove that the division of the posterior dislocations into dorsal above and dorsal below the obturator internus was incorrect and misleading, and that if the dorsal dislocation did occur above the tendon of that muscle the ordinary method of reduction by manipulation must be destructive both to capsule and rotator muscles, which would necessarily be broken down by the movements in question.

At the close of the meeting Dr. G. H. EVANS exhibited a patient (a man about forty years of age) suffering from a rare form of skin disease in which there was a general papular eruption, becoming vesicular, then crusting and passing away, leaving a brown stain.—Dr. THIN had seen the patient with Dr. Evans, and had identified the case as one, of which he had seen other examples at Vienna, called by Hebra Acne cachecticorum. The eruption, although commencing as a vesicular patch around a hair-follicle, was dependent on an impoverished condition of the blood, and occurred also on parts not provided with hairs, as the palms and soles—in fact, wherever the capillary plexuses were exposed to irritation. That the patient was cachectic was conclusively proved by counting the red blood-corpuscles, according to Malassez' method (which Dr. Thin exhibited), when it was found that, instead of 4,000,000 red corpuscles to the cubic millimetre, the patient had, when the eruption was at its height, only 2,000,000 corpuscles to the cubic millimetre; and now that he was nearly well, the number of corpuscles had increased nearly to the normal.—Dr. JOHN HARLEY remarked he had seen two or three similar cases of the disease, which he believed was usually called in England "syphilitic varioloid."—Dr. EVANS said that arsenic and antisyphilitic remedies had been tried and failed. Good diet and hygiene were rapidly curing the case.—Dr. TILBURY FOX contended that the case was totally unlike acne: it was not connected with the hair-follicles, but was primarily a vesicular eruption of which there were recurrent attacks of short duration. He believed it to be rather an example of Bazin's "hydroa," bearing the same relation to true hydroa as pemphigus foliaceus does to pemphigus.

CLINICAL SOCIETY OF LONDON.

THE meeting of this Society was held on Feb. 9th, Mr. George Callender, F.R.S., the President, in the chair. The proceedings were of much interest, the sequel of two cases of aortic aneurism treated by ligature of the carotid being reported by Mr. Heath and Mr. Holmes, and leading to an interesting discussion. A curious case of repeated tracheotomy was also exhibited by Mr. Pugin Thornton.

Mr. CHRISTOPHER HEATH showed a specimen of Aortic Aneurism from a man in whom he had tied the left carotid artery in February, 1872, and who had been brought before the Society both in 1872 and 1873. (See Trans. Clin. Soc., vol. v., p. 183, and THE LANCET, April 20th, 1872.) He died in September, 1876, from bursting externally of the aneurismal sac, which proved to have sprung from the ascending portion of the arch of the aorta, and not, as had been supposed, from the transverse portion. Mr. Heath remarked that though the relief from the operation had been marked and undoubted, it was difficult to explain its *rationale*, since the case did not support the view put forward that the branch next beyond the aneurism should be tied. Unfortunately the clot had been unavoidably removed, so that it was impossible to say whether it had extended any distance down the aorta from the left carotid; but the vessel was completely filled with clot, which was adherent to the lining membrane of the artery only at the point of ligature. No trace of the catgut ligature was discoverable, and it was remarkable that the coats of the artery showed no evidence of having been divided by it. Mr. Heath said that he did not attempt to theorise on the case, but contributed it in order that a complete record might be made of a case in which undoubted benefit had accrued from the application of the distal ligature, the patient living four years and a half after the operation. Mr. Heath also exhibited a recent specimen from a case in which he intended to perform a similar operation for an aneurism which presented in the episternal notch. The patient, however, died on the operating table from asphyxia, due probably partly to the chloroform, but also to pressure on the trachea by the tumour. All means for restoration, including laryngotomy, were tried, but without avail. The specimen showed that the aneurism was a sacculated aneurism of the arch of the aorta in the transverse part, projecting upwards and forwards between the innominate and the left carotid, the innominate being somewhat dilated, the left carotid

pressed upon. The case was one of the class which he would think best suited for the operation—viz., an aneurism of the transverse arch, and in such a case he would first ligature the carotid. In reply to the President, Mr. Heath said that in the first case the aneurism burst over the trachea.

Mr. HOLMES exhibited the patient on whom he had performed a similar operation, the case having been brought before the Society a year ago. (See Trans. Clin. Soc., vol. ix., p. 114; and THE LANCET, March 18th, 1876. The patient, a young woman twenty-one years of age at the time of operation, had a large aneurism, probably connected with the transverse part of the arch of the aorta towards its termination. The left common carotid was ligatured on Oct. 21st, 1875.) Mr. Holmes remarked that it was the only other case, so far as he was aware, in which the suggestion had been carried out, and he had been led to do it by the improvement which followed Mr. Heath's operation in Dr. Cockle's case. The aneurism was supposed to implicate the innominate and the carotid, but turned out to be aortic. The case was one of the worst cases of aortic aneurism he had ever seen; there was a loud bruit audible at some distance; the patient had profuse hæmoptysis, and, in Mr. Holmes's opinion, could not have lived a month. Prolonged rest, followed by Tufnell's treatment, caused great improvement; in half a year she was sent to Wimbledon, where exertion led to renewal of the symptoms. The aneurism appeared to be extending up the neck, which was, Mr. Holmes thought, the indication for the operation. Immediate marked benefit followed the operation, and the tumour subsided considerably, the dyspnœa diminished, and hæmoptysis nearly ceased. She is now in comparative comfort, though still in a state in which any exertion might easily cause death. There is still a constant hacking cough. Mr. Holmes thought that the only reasonable explanation of the action of ligature was that a clot was produced in the vessel tied, and that this extended down into a part of the aneurism. Wardrop's explanation left out of sight the circumstance that the collateral circulation increases directly after the ligature. Though prolongation of life could not be anticipated, the girl owed, he thought, a respite to the operation.

Mr. CALLENDER remarked that the subject was not only of great practical importance, but was interesting also from the doubt as to the exact results produced in the sac. Mr. Holmes's explanation was probably the correct one, and on this hinged the class of cases to be thus treated. Other important points were—the precise relations of the vessel, the employment of carbolised catgut, and the condition of vessel produced by the ligature.—Mr. BRYANT related a case in which he had acted on the suggestion of ligaturing the carotid. Three weeks ago he was asked to see a case of aortic aneurism in a man fifty-six years of age, under the care of Dr. Wilks, to ascertain if anything could be done for him surgically. The aneurism involved the aorta and innominate artery, projecting above the clavicle, pressing on the larynx and interfering with speech and deglutition. He had already been treated for some weeks on Tufnell's system, but without effect. Mr. Bryant hesitated on account of the age of the man and the fact that the aneurism was obviously aortic; but, encouraged by Annandale's case, where ligature of the right carotid gave great relief, he resolved to operate. Having placed before the patient the danger of the operation and the inevitable result if left alone, the man consented to the procedure. The right carotid was therefore ligatured about a fortnight ago with carbolised catgut, the artery proving to be remarkably large and thick-walled. The patient went on well for some days. From the second day he seemed better, and the pulsation had much diminished; some, however, continued above the clavicle and sternum, but it was altered in character. He went on well till the ninth day; no suppuration occurred; he took food well: but he then rather suddenly changed, and died on the tenth day. At the post-mortem, the right jugular vein was found to be filled with thrombus, and there were some secondary deposits, which Dr. Goodhart believed to be pyæmic in nature; and the spleen was softened. There was enormous dilatation of the ascending and transverse portions of the arch of the aorta, with extensive atheromatous degeneration and calcareous plates. The ligatured artery was completely plugged; the ligature had disappeared, but the coats of the vessel were cut through and separated a line apart. The left subclavian artery was also completely occluded. The left radial pulse could not be felt before the operation. There was no coagulation whatever in the sac. The operation had therefore done no good, although he believed it to have been perfectly justifiable.—Dr. BURNEY YEO thought that physicians saw many more such cases than surgeons, and it would be very desirable that the exact class of cases in which the operation was advisable should be determined. Mr. Bryant had consented to the application of the ligature in a case where there was general degeneration of the arterial tree—a case, in his opinion, very unsuited for operation. The most suitable cases were probably those in which there was only a local degeneration, the remainder of the arteries being healthy. Such a case had recently come under his observation in an aneurism of the superior mesenteric artery, that vessel alone being affected. Such cases might well be so treated.—Mr. MAUNDER observed that as Dr. Yeo had stated that physicians have a larger experience than surgeons of aortic aneurisms, surgeons might therefore very justly look to them for the indication for operative interference or not. Undoubtedly this was one of the chief difficulties to be overcome. The subject under consideration was one of great interest, but full of pitfalls. On a former occasion, when Mr. Holmes brought forward his case, he (Mr. Maunder) had ventured to say that the distal operation for aneurism at the root of the neck was in great measure experimental, but was, under certain circumstances—as where the disease was progressing in defiance of approved methods of treatment,—perfectly justifiable, even though the precise origin of the tumour could not with any degree of certainty be recognised. He still adhered to this opinion, because personal experience of the distal operation, the records of similar cases, the observation of museum specimens, and lastly Mr. Heath's preparation now before them, while they more or less upset the theory upon which the operations were undertaken, supported the practice.—Dr. MAHOMED thought it desirable to direct attention to the great value of the sphygmograph for the purpose of accurately diagnosing the position of aneurisms before determining on operation. He believed that as much or more valuable information could be obtained regarding the situation of an aneurism by the sphygmograph than from a combination of all other physical signs. He exhibited tracings taken by the permission of Mr. Heath from the patient upon whom he had lately proposed to operate, in which by the sphygmograph alone he had diagnosed an aneurism implicating the innominate and extending into the transverse arch. (See description of specimen above.) He exhibited also tracings from another case of Mr. Heath's, in which an aneurismal dilatation of the aorta before the innominate and an aneurism beyond that vessel were diagnosed by means of the sphygmograph, and in which a diseased ascending arch and an aneurism of the transverse arch, which just included the commencement of the innominate (the vessel itself being unaffected), were found after death. He showed also tracings from the case exhibited by Mr. Holmes, which indicated the freedom of the aorta before the innominate from aneurismal disease, and its presence beyond that vessel.—Mr. MACCORMAC thought it might be well to relate a case, which, though not precisely parallel, yet might throw light upon the subject under discussion. It was that of a man under his care who had a large aneurism extending over the whole axillary artery. The man objected to any operation, so other measures were tried: rest, Valsalva's treatment, local pressure on the sac, digital pressure, and other means, and finally distal compression by Esmarch's bandage. The aneurism extended from the subclavian quite to the end of the axillary artery. He bandaged the limb from the fingers to the termination of the aneurism with the elastic bandage, and then applied the circular tube. This bandage was kept on for two hours, and means were employed to keep up the vitality of the limb by wrapping in cotton-wool and applying warm-water coils. During the application the pulsation in the sac much diminished and became quite faint, but after removal of the bandage no perceptible effect had been produced on the aneurism. He had been led to try this by the success of Dr. Reed, R.N., in popliteal aneurism.—Dr. GREENHOW remarked that if Mr. Heath's treatment were unsuccessful, no means of cure remained but Tufnell's method. He had brought before the Society last year a case bearing on the

treatment of ligature—viz., one of spontaneous cure where an aneurism of the arch of the aorta, of large size, had pressed upon and obliterated the carotid, and then led to coagulation in the sac, thus producing an effect similar to that produced by ligature. (For particulars see Trans. Clin. Soc., vol. ix., p. 109, and THE LANCET, March 18th, 1876.) This case was an encouragement to operative procedure. Would Dr. Mahomed explain by what evidence the position of an aneurism might be precisely determined by the sphygmograph, for the benefit of those who had not specially studied the subject from this point of observation.—Dr. MAHOMED, in reply, stated that the signs of aneurism in a sphygmographic tracing were—(1) Diminution in volume of the pulse-wave; (2) a sloping upstroke; (3) impairment or annihilation of the percussion impulse; (4) a partial or complete obliteration of the dicrotic and other secondary waves; (5) generally diminution, but sometimes increase, of the amount of pressure required to produce the tracing. If all or some of these characters are found in the pulse on the right side and not on the left, the aneurism is innominate; if in the right and partly in the left, it is innominate and transverse arch; if in the left only, it is transverse arch or root of subclavian; if the signs are only partially present, and equally on both sides, it is ascending arch; if all are strongly marked, and only on one side, it is probably directly in the course of the subclavian, and not involving the aorta.—Dr. EDMUNDS thought that several points worthy of discussion were raised by Mr. Heath's case. In the aneurism on which Mr. Heath operated, the first part of the arch had given way. The aneurism was probably sacculated, at first projecting in front, and then upwards to the sternal notch. The theory as to the benefit derived from the ligature was hardly borne out by this, if the descriptions were correct, for the next large vessel to the sac had not been ligatured, the innominate intervening. It was of great importance to have a clear understanding of the cases in which the operation might benefit. A possible explanation of the mode in which ligature might benefit, apart from extension downwards of clot from the ligatured vessel to the sac, might be found in the alteration produced in the points of greatest pressure on its walls. Although we could not predicate the exact spots at which the nodal points existed, and consequently where there was greatest impact, it might be that the balance was altered, and thus the nodal points shifted. This was, at any rate, a plausible theory, which might be worked out. If it were so, all aneurismal conditions might be due to some casual weakness of parts of the arterial tube, which, if in other positions, would only lead to some thickening of the coats, but when it happened to coincide with a nodal point the repeated concussions produced dilatation, so that by ligature they might be disturbed and dispersed. A case apparently suitable for ligature, in which there was probably an aneurism of the right carotid at the root of the neck, had recently come under his observation. Another point of interest was found in the perturbations and instability of the heart's action in some cases, the only explanation for which seemed the reflex irritation of the sympathetic due to pressure acting through the nervi vasorum.—Mr. HEATH, in reply, said that he had guarded himself by saying that the case did not bear out his theory, though the result was favourable. He did not pretend to say what the ligature did, nor did Dr. Cockle attempt to do so in his paper on the subject. With all deference to Mr. Holmes, he doubted whether there could be much clot extending down into the aneurismal sac. As to Dr. Yeo's remarks, he agreed with Mr. Maunder. It was new to hear that one might hope to find such limited disease, for nearly all specimens of aortic aneurism showed that there was extensive disease of the whole aorta. The second specimen which he showed, where the aneurism was sacculated, was the one *par excellence* in which he would have wished to do the operation.—Mr. HOLMES, whilst to a great extent agreeing with Mr. Heath, thought with Dr. Yeo that those cases in which there was a localised affection without general degeneration were the most likely to be successful. In many cases some distinct idea of this could be formed. The cases best suited were those in which the aneurism was advancing up the root of the neck, or up the carotid, and causing symptoms by pressure on the pneumogastric. This formed the best rational ground for ligature, but no complete cure was possible, and to obtain entire consolidation was hopeless.

Mr. PUGIN THORNTON showed a patient in whom tracheotomy had been performed four times, the last time by himself. The patient, a man fifty-seven years of age, contracted a chancre in 1867, and soon afterwards had a secondary rash. No further symptoms appeared until 1869, when a rupial eruption appeared, and at the same time the voice was affected; a few months later difficulty of breathing was experienced. In 1870 the breathing became rather suddenly worse, and tracheotomy was thought desirable, but the medical man under whose care he was avoided it by other treatment. In 1871, however, fresh dyspnœa occurred, and tracheotomy was performed. Mr. Thornton had no particulars as to who performed the operation, but no tube was inserted, probably, he thought, on account of the difficulty arising from ossification of the cartilages. The dyspnœa was, however, relieved, the wound healed in four or five days, and in a fortnight the patient was at work. Until early in 1874 no further difficulty was felt, when, in January of that year, tracheotomy was again performed by Dr. Dukes, of Spitalfields. There was great difficulty in getting the tube in on this occasion, but it was worn for five or six weeks. About this time the face began to be discoloured, whether before or after the operation was uncertain. In April, 1875, the operation was again performed by Dr. Dukes, but the tube slipped out soon after. A Fuller's tube was inserted some time later, but it came out through an abscess in three weeks. He came under Mr. Thornton's care in June, 1875. There was thickening and ulceration of the vocal cords and ventricular bands, and great but not excessive dyspnœa; but the lividity of the countenance led to the belief that immediate operation was necessary. By rest and specific remedies the necessity was avoided. In July, 1876, the man came again, with excessive dyspnœa; tracheotomy was immediately done, the saw being necessary to divide the cartilages, which were ossified. The tube was worn for two months. There is still evidently some narrowing of the trachea and insufficient entrance of air. Mr. Thornton commented on the discolouration of the face, which almost resembled that due to nitrate of silver (though it had never been taken); the lividity had been misleading as to the urgency of the operation. The case showed, too, the necessity of always having a saw at hand when operating. In reply to the President and Mr. Barwell, Mr. Thornton said that the urgent dyspnœa dependent on thickening and ulceration of the larynx rendered the operation necessary.—Mr. MAUNDER said that, curiously enough, the man who had just been seen had for many years, whilst he resided in the city, been under his care from time to time for syphilis in all stages. More than once, as a consequence of laryngitis, tracheotomy had been imminent, but had been arrested by treatment until the first occasion mentioned by Mr Thornton. The case illustrated very forcibly one of the accidents more or less inherent to the operation—viz., a severe hæmorrhage from a vein, probably opening directly into the internal jugular. Owing to the circumstances under which the operation had to be performed, the patient was not anæsthetised, nor under sufficient control. The bleeding occurred at the moment of introduction of the cannula into the trachea on a pilot, the respiration being momentarily impeded, and the veins of the neck rendered turgid. The bleeding relieved the apnœa so greatly that the tube was not necessary on this occasion, the patient becoming quickly convalescent. At that time there was no ossification of the cartilages.—Mr. CASSON mentioned, with regard to the colour of the face, that he had observed in many cases of goitre pressing on the trachea, that the complexion was much darkened.—Mr. BRYANT believed the discolouration to be due to want of proper aeration of the blood, though enough air entered to support life. In a recent similar case, where stricture of the larynx resulted from cut throat eight or nine years before, he had performed tracheotomy, inserted a large tube, and the discolouration had disappeared in a few weeks. A similar procedure in this case would probably have the same result.—Dr. BURNEY YEO suggested the employment of oxygen inhalations.—Mr. HOWARD MARSH agreed with Mr. Maunder as to the cause of the discolouration, and mentioned a similar case, where the chronic obstruction was due to a papillomatous growth in the larynx of many years' standing.

THE

Hunterian Oration.

Delivered on Tuesday, February 13th, at the

ROYAL COLLEGE OF SURGEONS,

BY SIR JAMES PAGET, F.R.S.

MAY it please your Royal Highness, Mr. President, my Lords, and Gentlemen,—I have no doubt that it is my first duty to offer to your Royal Highness the thanks of the whole College of Surgeons for your presence here to-day. In honouring the memory of John Hunter, you make us more than ever proud to be the guardians of his museum and his reputation, you make us more than ever anxious to promote that true scientific surgery of which we reverence him as the great founder; and we shall venture to believe that your Royal Highness by your presence approves the efforts of this College for the public welfare, and is anxious to promote the sciences for the cultivation of which our reputation and our utility are maintained. On all these grounds, and on many others that need not be told to-day, I venture for the whole College of Surgeons to render to your Royal Highness our very respectful and our grateful thanks.

When time and the favour of my colleagues in the Council brought to me the occasion of delivering the Hunterian oration, I thought it right to study afresh the character of John Hunter; and now I beg your leave to offer some of the facts and thoughts to which, in my study, I have been led—chiefly to state, if I can, what were the motives of John Hunter, in his scientific life, and what were the chief characteristics and methods of his work—to tell also some of his achievements and the lessons that may be read in the story of his life. I may, then, I hope, however imperfectly, fulfil the design of the founders of the oration by promoting the honour of John Hunter, and perhaps even the advancement of surgery, by showing in his life and example the good influence of a scientific life.

The motive which at first urged John Hunter to the pursuit of science seems to have been only the necessity of earning his livelihood, for we find him at first, as the youngest child of a Scotch farmer, idle and negligent of education. In the first twenty years of his life he showed no desire for the knowledge of science, or any of the arts that minister to it, or, indeed, for any intellectual pursuit whatever. We find no tales of early enterprise, no childish love of nature, no sign of the future mental power. When he was seventeen he tried to assist a brother-in-law who was a bankrupt cabinet maker at Glasgow, and it is most probable that, if he had been successful, cabinet-making might have been the occupation of his life. But, happily, he failed. His brother-in-law was past helping, and then, after two years more idleness, what was next to be tried? His brother William Hunter was prosperous in London; he was beginning to be esteemed as a great teacher of anatomy and surgery, so he offered to assist him in his dissections, and if that should fail he would go into the army. Thus, in mere idleness or of necessity, with no other reason than that there was nothing else to be done, John Hunter drifted into the opportunity of scientific study, drifted into the career in which he was to become great amongst the greatest men of science, and amongst all the surgeons of all times the most renowned. It seems strange that a mind so remarkable, so vigorous, so self-willed, as John Hunter's proved, should not have shown or felt some consciousness of its power till it was brought to scientific study. He had not lived in darkness or among dull people. His father was a shrewd and sensible man, his mother was well educated, both his brothers, and at least one of his sisters, were persons of remarkable mental power. Among these his mind had had opportunities of culture and of exercise, but he neglected them as if they were to him useless. And he had lived amongst the same wondrous organic world, the same truths and utilities in nature, as moved him in his later years to restless study. But he passed them all by unheeded; no desire of knowledge was stirred in his mind till he came into the presence of scientific men at work. It may be that now for the first time his mind had reached the maturity necessary for the desire of scientific knowledge, but I think it is rather that now for the first time he found in the society of his brother both the project and the method of work for which alone he was naturally fitted. In 1748, when John Hunter came to London, there was great intellectual activity in all the medical sciences, and William Hunter was in the midst of it. He was an intimate associate of the best minds of the time, the best lecturer and the best teacher of anatomy; enthusiastic in his devotion to science and to art, a very keen observer and a laborious collector, wishing to devote all that he could earn in practice to the increase of his museum and his means of teaching. We may, indeed, count William Hunter to have been the first great teacher of anatomy in England, the founder of the first great school, among all the biologists of his time and country second to none but his brother. Now to pass from the idleness of a Scotch farm into the activity of life such as Hunter found here was like being born into a new world, and this was the very world, if not the only world, in which the best parts of his mind could live and grow; for he had a natural fitness for the study of living things. For other things he seems to have had no greater desire or capacity of knowledge than ordinary men have. But this natural fitness was, in the first instance, wholly intellectual. There was no love or desire in it, and so the mind had no motive power until it was set to its right work, and in work found happiness. For the happiness of intellect is in its work; that of the highest intellect in vigorous self-guided work. The highest intellects find a happiness, the desire of which is their energising motive, not in the reception, nor in the mere possession, of knowledge, but in the process of acquiring it and of using it in thoughtful exercise. Moreover, to some intellects, and, among these, some of those by whom the greatest results of science have been achieved, there is but one kind of knowledge which satisfies either in the getting or the having. To John Hunter there must have been no great intellectual happiness except in the pursuit of the knowledge of living things, and to these he was now brought, and hence onward there was no lack of motives. The mind that had been idle, heedless, and aimless, had come to its right field of action, and in that field every opportunity of intellectual pleasure and exercise was offered to it, and it grew into capacity for all. Gradually the desire for knowledge grew to be an insatiable passion—a motive to incessant work; but with this passion another coincided. Hunter had a passion for collecting. He may have learned it of his brother, or he may have only followed the passion of the time, which was as dominant then as it is now; but I think it was natural to him—a natural instinct for gathering and keeping, and it worked with his desire for knowledge, and each continually animated and provoked the other. It cannot be maintained that Hunter's desire of collecting was only secondary to his desire of knowledge. Science gave it its first and chief direction, and his great ambition was to have a grand museum, richly illustrated with catalogues and drawings. If he could he would, I believe, have collected everything by which he might show to himself and his friends every fact in biology he could find. But even this would not have satisfied his love of collecting. He collected a crowd of things besides, that must have been useless even to himself, and must have helped to keep him poor—pictures of considerable cost, engravings, works of art in ivory, bronze, and marble, stuffed birds, and implements of savage warfare. With all these his house in Earl's-court must have looked like a curiosity shop. This may easily be pardoned. No earnest collector ever yet bound himself within the limits of science and utility and prudence; and if an extravagant love of collecting, silly as it often is, need be apologised for, the example of John Hunter may be quoted; for it led him constantly into wider and deeper ranges of study, and it incited him to the industry and skill with which he collected the great stores of facts that are treasured in this College. Gathered around them now are the museums of the College itself, twice as large as his own, and they form what Hunter longed to see, the greatest and best museum of anatomy in the world. One other motive of Hunter's scientific life should be mentioned: he was a master in all the arts of anatomy, in dissecting, injecting, and all the then known

ways of displaying specimens. These were the motives of John Hunter's scientific life, and they deserve study, for he led that life with as much purity and simplicity as any man. Doubtless, as we read his biography, we may trace the influence of other motives which various forces added to these, but they were all casual and subordinate, altogether outweighed by the constantly increasing power of those which I have mentioned, and chiefly by the desire of knowledge; and that desire continued to increase in him with indulgence, with contest against difficulties, with the constant presentation of new objects for his study, and with the encouragement of success. He filled himself with knowledge, and through knowledge he became an ardent lover of nature. I say "through knowledge," for Nature in her manifold perfections inspires many kinds of love, and Hunter's was almost wholly intellectual. He had none of that love which moves the poet, or the idealist, or theologian; for, in truth, neither poetry, nor theology, nor idealism ever coloured the simplicity of his scientific mind. He had the social love of nature, and he writes and speaks of the animals around him as if they were his companions. But his chief love was for the charms of truth that lie hidden beneath the veils and appearances of nature; and his love for them was continually increased when every search revealed the utility of all he saw, the perfection of adjustment of everything to its purpose, the fitness and design in every change, and the evidence of a grandeur in a world of infinite variety of form held stedfast by few laws. All these were motives to fresh study, and I cannot doubt that he attained to that great achievement and satisfaction of the intellect when it can rest in a loving contemplation of the truth, loving it not only because it is just, but because it is beautiful. I cannot doubt that there is given to some high intellects, in view of a great field of scientific truth, a source of as pure delight as are the sensuous beauties to a cultivated artist-mind, or virtue to an enlightened conscience. Hunter had a pure, calm happiness in such contemplation. So Reynolds, his friend, seems to tell of him; for in that masterpiece of portraiture which teaches like a chapter of biography, Hunter is not shown as the busy anatomist or experimenter searching for objective facts; the records of his own works are all in the background, and he is at rest, and looking out, but as one who is looking far beyond and away from things visible into a world of truth and law which can only be intellectually discovered. In the calm vision of that world was his reward; and it may be the reward of all who will lead a scientific life with the same devotion and sincerity.

Let me now speak of some of the characteristics of his work and of his method. That which first and always strikes one is the vast quantity of work that he did. It is recorded of him by one of his pupils that he rose regularly at the dawn of day, and never ceased from his labours until night was far advanced; by others, that he allowed himself only five hours for sleep; and by another, that, when he gave him a letter of introduction, he was asked to call on him the next morning at five o'clock, and at that hour he found him already at work in his museum. Such as these were the habits of Hunter for at least the last thirty years of his life. And, reckoned in mere quantity, few men have left so large results of scientific labour behind them as Hunter did. Besides the four published volumes of his works, he left fifteen in manuscript, all written or dictated by himself. There is evidence that he dissected the bodies of 500 species of animals, and, of some of these, several examples. He left records of 300 of these dissections, and these included none of his studies of human anatomy or of hundreds or even thousands of morbid structures which he examined. His museum contained nearly 14,000 specimens, and all these were either prepared, or at least very closely studied, by himself. And this was all the work of about thirty years, during the whole of which time he was in the active practice of surgery. Even his "amusements," as he calls them, were such as idle men would call hard work. "I amuse myself," he says, "with bees," and the result of his amusement is in essays which the best recent writer on the subject calls almost faultless, and which might alone have served to gain for him considerable scientific reputation. In evidence of the quantity of work which he would devote to a single subject, let me read you what he states of his observations on the development of young birds in eggs. After many trials, which were to him unsatisfactory, to investigate the subject in the eggs of chickens, he says:—"I kept a flock of geese for more than fifteen years, and by depriving them of their first brood in my investigations they commonly bred again the same season. As hours make a difference in the first days, it becomes necessary to examine in the night as well as in the day, by which reason the latter brood in the summer is best adapted, having then short nights." Surely one might suppose that this was the one great work of his life, this hourly examination by day and night over parts of fifteen years. Yet it seems, in truth, to have been only casually by the way pursued. He became, indeed, so enchanted with the study of young birds in eggs, that he says "one would almost fancy that this mode of propagation was intended for investigation." Though thus he reached very far beyond the results obtained by any before him or in his own time, he did not publish the results, and they were not known until many years after his death. Never before or since—I think I am safe in saying this—was anyone so thorough an investigator and student in so wide a range of science. He was an enthusiastic naturalist; as a comparative anatomist and physiologist he was unequalled in his time. Among the few pathologists he was the best; among the still fewer geologists and students of vegetable physiology he was one, if not the chief. And he was a great practical surgeon. He was surgeon to a large hospital in London for many years, holding the largest practice in the metropolis. In all these things at one time no one but Hunter ever was eminent and successful, for it is not only in the range of his study but in the thoroughness and depth of it that he was distinguished. It is not possible, indeed, to point out by example the thoroughness of Hunter's studies. Let it suffice to say that in the whole range of subjects which I have just now indicated, he studied as thoroughly as was possible. There is not one of them in which he did not make investigations wholly original; not one of them of which he did not enlarge the area very far beyond that which had been covered by his predecessors; not one of them in which he did not leave facts and principles on record which it is impossible to count and very hard to estimate.

In all these characters of Hunter's works we see that which was the dominant character of his mind; massiveness and grandeur of design were indicated in all to which he applied himself. And in perfect harmony with this was the simplicity of his ordinary method of work. It consisted mainly in the accumulation of facts from every source, of every kind, and building them up in the simplest inductions. If he had been an architect he would have built huge pyramids, and every stone would have borne its own inscription. He knew nothing of logic or the science of thought. He used his mental power as with a natural intellect. He worked with all his might, but without art. I know no instance that can be read so striking as his is of that kind of living force which there is in facts when they are stored in a thoughtful mind.

But Hunter was not only a great observer, he was a very accurate one. I think it would be difficult to find, in all the masses and facts which he has recorded, any one which was either observed or recorded erroneously. If there are errors in his works they are the errors of reason, not of observation. And it may be noted as a singular example of his accuracy that when he tells his inferences it is almost with expressions implying that he regarded them as only probable: a fact he tells without conditions; when he generalises it is with "I suspect," "I believe," "I am disposed to think," or the like; and I believe there cannot be found one instance in which he endeavoured to add to the force of evidence by any strong assertion of his own opinion, as if his opinion could be taken for weight in a balance of testimony. Nay, there are very few instances in which on any of the larger questions of biology Hunter speaks with any positiveness at all. No one seems to have known better than he did that strong convictions are not usually the sign of knowledge. He seems to have thought he had never reached further than the nearest approach to truth which was in the time attainable, and that a year or more of investigation still continued would bring him nearer to the truth, and then that which now seemed right would be surpassed or set aside. He used to say to his pupils in his lectures, "Do not take notes of this; I daresay I shall change it all next year." Another instance of this singular caution was in the slow-

ness with which he published anything. He was at work eighteen years before he published anything in his own name. He was forty-three when he published his first work, that on the Teeth, and for his great work on the Blood and Inflammation he may be said to have begun collecting materials while he was a student. Several of the experiments recorded in it for the first time were made while he was house-surgeon at St. George's Hospital; he worked at it for forty years, and he had only just begun to print it when he died. And his patience was equal to his caution. Abernethy, who knew him well, says, "It is scarcely credible with what pains Mr. Hunter examined the lower kinds of animals"; and he quotes Mr. Clift as saying that he would stand for hours motionless as a statue, except that with a pair of forceps in either hand he was picking asunder the connecting fibres of some structure that he was examining. A very striking picture this, for this was in the last year of Hunter's life. He was growing old, and he had lately been very ill, and he knew that he was in constant peril of the sudden death in which at last he fell; yet he would stand for hours motionless as a statue, patient and watchful as a prophet, sure that the truth would come—it might be in the unveiling of some new structure that was before him, or in the clearing up of some mental cloud, or it might be as in a flash, in which, as with an inspiration, intellectual darkness becomes light.

Now in these things we discern very clearly in the character of Hunter that massiveness and strength of design of which I have spoken, and which were matched with a strong will, and a power nearly equal to them was combined with a single, scientific prudence; and yet he was very fond of scientific enterprise and speculation. The characters may seem incongruous, yet they are met with in the most attractive minds, and they may be studied especially in Darwin and in some others—the best of our own times. His enterprise was shown greatly in his devotion to experiment. If there were one kind of truths which he preferred before all others, they were those which he could thus obtain. He seems to have had a keen delight in that condition of the scientific mind in which it stands waiting for the solution of a problem which itself has made—standing always, as it were, in the presence of the about-to-be known; and as he was always projecting his mind beyond his knowledge, thinking out beyond the course of facts which he could discern in the normal course of nature, so he made every question that he could to be the subject of ingenious experiment. He used to say to those about him who seemed to be fond of thinking about matters that might be known: "Do not think; try; be patient; be accurate." And yet, when he came beyond the reach of observation or experiment, there were few who were so bold in thinking as Hunter was; and I believe that his long experience in the art of experiment justified him in this by training and educating his mind for yet further enterprises; for a well-devised experiment, such as many of Hunter's were, deserves the name of projecting, in that the mind, drawing itself forwards in advance of facts already ascertained, discerns that the truth must be in one or two or a few more probabilities, and then devises means for deciding where it is; and a mind which has been long practised in this art acquires sometimes the power of thinking out very far beyond the range of facts, and looking far beyond, and even sometimes from a standpoint of partial error, and yet at a great distance discerns some great truth. Hunter seems to have possessed the power in a very remarkable degree of sometimes thus thinking the truth. For example, he thus thought the truth that the blood is alive, and that not in any supernatural or transcendental sense, as others before him had thought, but in the same sense as are all other parts of the same living body. This discovery deserves not the name of a guess, or a mere scientific imagination; it was a true discovery of which he saw all the bearings, and it led him to the first steps in a true pathology of the blood. Yet if we look at the facts on which he based it we must believe now that they were very insufficient, and we must assign the discovery mainly to the force of a strong, clear mind, looking out far beyond its facts. So, in another instance, in the observation which I have just quoted on the incubation of the bird within the egg, he discerned that marvellous law in development that every higher creature in its passage from its embryotic to its perfect state passes through a series of changes, in every one of which it imitates the form of some order lower than itself. And this was no mere lucky guess just made and then left. Hunter saw in it all its force, and it became to him a fruitful doctrine. It was one of those things that chiefly engaged him in the chief pursuit of his life, to discern that the lower forms of life must be searched for the elementary and simplest examples of functions that are discharged in the higher. And I find at least one instance of his projecting his mind far into a doctrine of evolution. When writing on Hermaphroditism, which he studied very carefully, he says in a footnote, "Query: Is there ever, in the genera of animals that are natural hermaphrodites, a separation of the two parts, forming distinct sexes? If so, that may account for the distinction of sexes ever having happened." It is not strange that one who could thus sometimes think out rightly far beyond the truth, should strive for a decision on that great question in physiology which, from the earliest days of scientific inquiry, has never ceased to be discussed—the question, What is Life? Hunter strove for a decision of it, and his opinion had great influence upon his own pursuits, and much more for a time on his reputation and his influence in science. He spoke of life as a vital principle, as something separate from organisation, and although he spoke also of a *materia vita diffusa* and a *materia vita coacervata* in the brain, yet he did not regard it as material, or any property of matter. I believe that he meant by vital principle that which Joseph Henry Green, the most eloquent and philosophical of his interpreters, meant—a power anterior in the order of thought to the organisation which its animates, sustains, and repairs—a power regenerative and constructive. But Hunter could not clearly express this, and I believe he could not clearly think it, for he wrote upon this and several allied subjects very obscurely—so obscurely that we cannot but believe that his own mind was in uncertainty and confusion. And this I think we may assign to one of the few intellectual defects we can discern in him—namely, a singular inequality in the power and management of thought. In every mind thoughts and words are so closely interwoven, that each shares always the qualities of the other. Thoughts and words are like mutual reflectors: if either of them distorts the image of an object placed between them, the other cannot but receive the distorted image and reflect it. Each is alternately master and servant. Thoughts use words for their expression, and generally these very words help in guidance to the next thoughts; if either be erroneous or defective, the other suffers with it. Now, Hunter was a great master of facts, and in plain and customary English he could with great power collect, compare, arrange, and construct whatever might be made of them; but he was not a master of words. His strong, large mind does not show in any instance that subtlety which, whether in thinking or in writing, can use accurately many words of scarcely different meanings—a power which is essential to the discussion of abstract ideas, and the want of which not only hinders the expression of thought, but hinders even the process of thinking. This defect in Hunter was, I believe, a natural one. Most of the defects that might be assigned to imperfect education he corrected in his later years, but to the last he was, whether in thinking or in writing, in language most incomplete, and his mind, strong as it may have been by nature for thinking, was hindered and baffled by its weak associate. Nevertheless, however incomplete his idea of the vital principle might have been, he used it very widely as an hypothesis. It guided him continually to large ranges of study; it enabled him to throw off the shackles of the erroneous chemical and physical doctrines of life which had prevailed in his time, and it served, as it were, as a single bond to hold together all the subjects of his study. Moreover, some of his pupils made it the groundwork of his reputation, and although it was neither a new doctrine nor one essential to his system, yet it became the chief dogma of his school, and it served at least the useful purpose, that in a time of need it kept alive the influence and reputation of his great name.

But what I think most to be observed in respect to the character of Hunter in this point, is the very careful estimate he made of the relative values of hypotheses and facts. He bore well that severest test of the scientific mind, the test of its power to resist subjection to its own hypotheses. Feeble men worship the work of their own minds; they fall down before their own idols made of words; they have more confidence in what they call their principles than they have in plain facts.

It was not so with Hunter. He may have admired the hypothesis of a vital principle, and he used it very wisely, but he admired much more the accumulation of facts and the plain inductions from them. He gathered them as with avarice, he stored them up in memory and in manuscript, and he read in them as he best could the laws of life. This was the principal, the best, the abiding part of his work, and hence comes his great influence in science. But in the mind of Hunter, thus careful in observing and able in thinking, we have an epitome of the whole course and temper of biology. It is eminently a science of observation, yet none who love to think can study the phenomena of life without asking themselves what is life, or even beyond this, whence it is derived. An imperious instinct commands us to look beyond or beneath the phenomena. We cannot believe it to be impossible that we should reach far beyond the evidence of the senses; and when beyond phenomena we discern, as we believe, the operation of forces measurable and correlated, still we cannot stay here, for the knowledge how forces act tells us nothing of their origin; and this, especially in respect of life and mind, is what we most earnestly desire to know—what is life and whence it is derived? Is it a power anterior to the organisation? is it a power originative and constructive? Now I cannot doubt that in the doctrine of the correlation of physical and vital forces we are nearer to the truth than we were in the Hunterian doctrine, which held that life is something altogether alien and different from other forms or methods of activity; but holding the correlation and mutual conversion of the forces does not determine the precedence of either the one or the other. If the vital and physical forces are mutually convertible, either may have preceded the other; the vital force may have preceded the physical, although life appeared late upon this planet, in any of the phenomena in which we can now study it; and even if we are to hold the possible conversion of physical or vital into mental force, into consciousness, and will (though against this what I believe to be my consciousness and will are utterly repugnant), yet this would not prove the precedence of the physical force. The opposite converaion can be as well or ill traced. Mental forces may have preceded physical; mind may have existed before any of the properties of matter; and therefore in the view of science the first essence may have been a Being willing and self-conscious, and the prime source of all the forces whose operations we now trace. I believe there is not anything in science to disprove such a belief as this; but I doubt whether it be in science yet to determine an order of precedence amongst the forces. I cannot imagine anything before the natural force, except a supernatural will; and a belief of this kind is held by untutored minds as if it were instinctive knowledge. For man seems naturally prone to believe that beyond all that there is in the world there must be a mind or minds in the likeness of which his own is created and with which he is in some kind of personal relation. But science cannot yet reach to the proof of these things; and, until it can reach to proof, science cannot rest and must not rest; but the firm and self-guiding belief in a supernatural will and knowledge rests on the basis of the whole and manifold evidences of the Christian faith. This may seem often opposed to what we believe to be true in science. Then let us wait. Time—or, if not time, eternity—will prove that science and the Christian theology are but two sides of truth. It will prove yet more, that both sides are as yet only known in part.

I pass from this, which may seem a too wide digression, that I may speak of one character of Hunter's mind which seems to have remained unchanged, even from the days of his idleness on the Scotch farm—I mean the unconsciousness of his own mental power. He could be provoked in his later life into saying that he knew better than some of those that spoke ill of him, but he said he felt a mere pigmy in the presence of the work he had to do; and even the sensitiveness and vexation with which he sometimes speaks of rivals is enough to prove that he doubted whether he did work good and great enough for permanent renown. He stands, as he stands all other tests, so this of mental greatness, well—the test of self-unconsciousness; and it is happy for science that he did so, for if Hunter had thought of himself as we think of him—wherein we must admit he would only have thought justly—he must have lost his time, being self-enamoured, in seeking work that would be inadequate to the grandeur of his mind, or putting his mind in attitudes that might command just homage. And, according to his own judgment, he would have failed; for, as he wrote with more than usual disparity of words and wisdom, "There never was a man that wanted to be a great man ever was a great man."

And now, what were some of his achievements? What was his influence in science? We have seen that his work was various, and so were its consequences. Hunter worked at life in both health and disease, and in his mind they were manifestations of the same power and design, although sometimes in diseases overborne; but he held them to be parts of one science to be studied alike. Yet he had too much common-sense not to see the broad practical differences between health and disease, and he studied them separately, and he taught them separately, and in estimating his influence on science we must make a similar separation. His greatest work was on Physiology. Holding under that name the science of the whole normal life of all things that live and have lived, he grasped it with a just mental grasp. He saw and he taught the way to the whole science of life; and this he did as of his own force. He neither followed other men nor merely drew a plan on which other men would work, but with his own mind he planned, and with his own mind he wrought, a larger and truer work in the whole science of life than any man before him. And in this work no man succeeded him. His lesser work, great as it was—greater, I believe than that of any man before or since—was in Pathology; and the influence of this lesser work was greater than that of the greatest of the achievements in physiology; for, from among his pupils there went out all the great surgeons of the time next after—Abernethy, Astley Cooper, Cline, Home, and Blizard. These all boasted of being his pupils; they all taught after his method, and they made the method a tradition and a school. Hunter was thus, in the fullest sense, the founder of a School of Surgery. But from amongst his pupils there went out not one who devoted himself to physiology—not one who worked at it as he did. Athough he was an active and influential member of the Royal Society, intimate with all the leading men of science of his time, the founder of a scientific society of his own, yet in his study of comparative anatomy and physiology not one of the younger men of science followed him. In all these deeper studies of life Hunter had not one disciple.

Now, how may we explain so marked a contrast as this? I believe by the different levels of men's minds at the time on the two subjects. There was not, at that time, in this country either capacity or desire for any of the deeper studies of life. There was, as we say, no taste for them. That is, no one but Hunter had at that time tasted intellectual happiness in the study of them. It was not so in pathology. The practitioners of medicine and surgery were quite willing and ready to receive his teaching; and although, during his lifetime it never excited enthusiasm, yet the best of those who heard it could not but say that it was the right way to truth. In comparative anatomy and physiology, Hunter was in advance of his time; not far in advance, for Cuvier and Meckel quickly followed, and then these sciences became, and have remained ever since, pursuits of the largest intellects. It may well be that if Hunter had been more apt to teach he might have made more disciples. Some men by mere personal influence can make disciples. Hunter had none of the power by which these men make their schools. He had no attractions easily to be felt. He was too busy and occupied to exercise influence over men. His lectures were said to have been dull and tedious, and ill delivered; and there was really nothing but the power and example of his work that could move men to follow him. These were enough in medicine and in surgery; they were not enough in the deeper sciences of life. And so it came that when Hunter died poor and with his work half finished, there was not one who could complete his unfinished essay, or write the catalogues of his different collections. There was not one who knew the extent or depth of the work he had done. His works had been like the waves in advance of the incoming tide. A few of those who looked at them, and watched them, thought them beautiful and grand; but they fell on the shore as if they had been only uselessness and confusion, and the tide passed over them and hid the treasures they bore. It was not till Owen came that the treasures were recovered, and by that time others had done the work of Hunter and had reaped the first reward. But Owen showed, partly in his catalogues of the Museum, and very much more in his two volumes of Hunter's "Essays and Researches," how much and various Hunter's work had been, how great beyond that which was suspected in the essays which he published. As Mr. Flower has written of him—"Hunter had, before the time of Cuvier and Meckel, collected materials for a work which needed but the finishing touches to have made it one of the greatest, most durable, and valuable contributions ever made by one man to the advancement of the science of comparative anatomy." It may seem useless to dwell on these things, and revive the vain regret that not Hunter alone, but

England, lost so great renown. But it is not useless to indicate the grandeur of his character by which our English—I mean, of course, our national—school of surgery was founded; for it was only by imitation of the founder that the worth and merit of the school could be maintained. Hunter's chief renown in surgery is told by saying that he was the founder of scientific surgery: and so he was; for he first studied and he first taught in the light and with the methods of a large physiology those very processes of disease and repair with which the practice of surgery is concerned. There were excellent surgeons before him, and in his time—sagacious, observant, practical men, by whom surgery was being rapidly advanced in both utility and precision. Not to speak of the members of the French Academy, there were, in this country alone, three at least—Cheselden, Percival Pott and William Sharpe. Of the first two, Hunter was, for a time, a pupil; and it is great praise of him as a practical surgeon to say that he was worthy to be their successor; but before the time of Hunter, surgery was the surgery of experience alone. In so far as it was a science, it stood by itself. It had hardly any connection even with medical science, and with the sciences beyond medicine it had no relation whatever. Between surgery and physiology there was a broad distance. No one strong mind had ever held them both and seen that they were parts of one science, each to be studied by the other's light—each to be the test of the other's truth. This was Hunter's great work. He brought the scientific method into the science of surgery: he welded the lessons of science with the lessons of experience, and in all this Hunter was not only a great thinker, but he was a great worker. As I have said of his work in physiology, so I may say of this, that with his own mind he planned, and with his own hand he did the work, and he left behind him facts and general principles in surgery which it is literally impossible to count.

But while I thus speak of Hunter's scientific surgery, I desire to correct an error into which I think most of his eulogists have fallen when they have implied that the whole of Hunter's practice was founded upon his scientific knowledge, and that no practice can be sound which is not derived either from pathology or physiology, or at least consistent with what we believe to be truth in them. Now, as for Hunter—and herein again I think he may be our model—he was very cautious in making deductions; no one seems to have known better than he did the danger of reasoning from physiology to practical surgery. As he says again—"The man who judges from general principles only shows ignorance. Few things are so simple as to come wholly within a general principle. We should never reason on general principles only, much less practise upon them when we are or can be masters of all the facts; but when we have nothing else but the general principle, then we must take it for our guide." It is an instance of the wisdom of his principle, that in all his surgical works of practice it is difficult to find out that he was a great physiologist at all. In his work on "Venereal Disease" I believe there is not one sentence that would clearly tell it; and even in his great and chiefly physiological work on the Blood and Inflammation, he very seldom draws any deductions from physiology, and even the deductions from pathology to surgical practice are very few. We can see in every one of his works the same scientific mind, the same earnest desire for the collection and accumulation of facts, the some plain reading out of them, the same swiftness and accuracy in generalizing; but the great effort of all is to be master of the facts, and then from them to draw the plain conclusion. A striking instance of this is in Hunter's great achievement in surgery—the invention of the operation for the cure of aneurism by tying the artery far above the seat of disease. This was no laborious result of physiological induction, it was a plain result of facts collected in the wards and in the deadhouse. I shall not discuss Hunter's claim to the discovery of this operation. It is as clear as the discovery of any fact of science. But if there must be arbitration between Anel and Desault on the one side and Hunter on the other, or between France and England—for it has been almost made a national question—let an Italian, Assalini, be the arbitrator, for he had the singular good fortune to see three decisive operations. In 1781 he saw Spezzani at Padua tie the femoral artery previous to the amputation of the thigh for popliteal aneurism. In June, 1785, he saw Desault in Paris tie the popliteal artery for popliteal aneurism, which he did not, according to the then prevalent practice, lay open; and in December, 1785, he saw Hunter at St. George's Hospital tie the femoral artery in the sheath of the triceps muscle for the cure of the same disease; and this operation, he says, excited the greatest wonder, and awakened the attention of all the surgeons of Europe. It was indeed a splendid achievement, and its utility is not half told by counting the thousands of lives which it has been the means of saving, for its yet greater utility is that it still abides as a great testimony of the value of a scientific mind in the practice of surgery. This was Hunter's great work in surgery and for surgeons; and this it is which still abides, for since the time of Hunter science has never yet been absent in the teaching of our school. Since his time the teaching of practical surgery has never been divorced from the study of biology; they have been cultivated in various degrees in various schools by different men, but both have held their ground, and both will still increase and grow. Yes, both will increase, though the great master of art, the greatest practical surgeon of our time, is gone. Men will no longer watch those eyes that were so keen, nor try to imitate those hands that were so strong, and yet so sensitive, so soft and light; nor wonder at that keen and clear perception, that prompt invention, or that perfect calmness in the greatest difficulties. All these are gone, and with them there are gone those things that endeared him to us still more—the warm heart, the friendliness, and generous rivalry, and the social grace. These are gone, but Fergusson's lessons will still remain amongst us, and among them will be this that every man, according to his ability, should have both art and science—should work with both as with both hands, as with one mind and one design, striving only to obtain the best result. It was thus that Hunter wrought in surgery.

These are some of the works that Hunter did for surgery. And now mark what he did for surgeons. Before his time they held inferior rank in the profession. There were some among them—men of great personal ability—who gained high rank, as Wiseman, Cheselden, and Percival Pott; but for the most part they were subject to the physicians, and very justly so, for the physicians were not only better learned in their own proper calling, but were men of much higher culture—educated gentlemen, and the associates of gentlemen. From Hunter's time a marked change may be seen. Physicians worthily retained their rank, as they do now, and surgeons rose to it, and surgery, in the lessons of Hunter, repaid medicine for the patience of a century, for medicine before Hunter's time had been the teacher of all sciences. After his time surgeons came to be the chief anatomists, and took a fair share in the teaching of all the schools, and they rose to be associates with the most cultivated minds of the time. Yes, more than any man that ever lived, Hunter helped to make us gentlemen, and the lesson of this fact is very striking, for it was not by any personal qualities, it was not by wealth or social position, that he did this. There are but few records left of what manner of man he was, but they tell that he was a rough, simple-mannered man, abrupt and plain of speech; warm-hearted, and sometimes rashly generous; emotional and very impetuous—quickly moved to tears of sympathy, as quickly ablaze with anger; never appearing to those about him as if he were a man of large mental power, never personally attractive, too busy to attempt to influence those about him; and so he had but few friends, and he obtained the personal regard of very few, and no man paid him the homage of mimicry. The whole of the influence which he exercised on surgery and surgeons was the influence of the scientific mind. What follows for us? Surely, that if we are to maintain the rank of gentlemen, if we are to hold high place in our profession, it must be by the highest scientific culture to which we can attain; and to this we are bound, not for our own advancement alone, but by the plainest and strongest motives of our duty.

These are some of the grounds on which beyond all question Hunter claims the honour that we pay to his memory to-day. There are many more than these, but for want of time I have omitted some, and in want of just appreciation of him I have omitted more. Whatever one might tell of his honour to-day, his claim is not yet exhausted, for the influence of men like Hunter extends far beyond the time and space of their own conscious activity. Their true thoughts live after them; they not only endure and remain, but in the continuity of mental life they really live; they pass on from one generation to another, and in each succeeding generation they grow, and are developed, and come nearer to perfection. Thus the true thoughts of Hunter still live with us, and when we do honour to his memory we do it, not as to that which is past, but to a power still abiding with us of doing good. His true thoughts still live in us, and they will live beyond us, never ceasing to urge and help men onwards in the pursuit of truth, for in the world of mind he that is mortal may produce that which may have immortality.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 17, 1877.

THE grave has closed over a great surgeon and a very notable man. Of Sir WILLIAM FERGUSSON it may be truly said that he was a born surgeon. Few men equalled, and probably none surpassed, him as an operator. His manipulative skill was altogether remarkable; his hand, eye, and brain moved, as it were, in unison, and nature had endowed him with a power in this respect which no art and training could have created, any more than these can create the boldness, freedom, ease, and accuracy that characterise the really fine draughtsman. In the one, as in the other, the gift being there, its highest degree of development depended upon training and exercise. Paradoxical as it may seem, it is nevertheless true that it was a grand and ennobling thing to see Sir WILLIAM FERGUSSON operate. It represented a conflict between the weakness and strength of humanity. On the one side there were the suffering and the maiming, and on the other the intellect to plan and the skill and courage to execute a measure to alleviate or remove them. Sir WILLIAM'S hands combined power, delicacy, and sensitiveness, and his muscular sense was perfect. Like many of his predecessors—Sir ASTLEY COOPER and Sir WILLIAM LAWRENCE for example—FERGUSSON was commanding and dignified in person and bearing, with handsome features, and a large dark eye, soft and benevolent in its expression. There was neither hurry, mannerism, nor affectation in him. The surgeon's repose and self-confidence formed a moral support to the patient, to whom a few words of sympathy and encouragement were generally addressed, accompanied by a kindly smile and a pleasant glance from his dark eyes; and, the patient being rendered insensible to pain, whatever had to be done was done with a delicacy, smoothness, and decision that betokened the hand of a master. It is to pay the highest tribute to the excellence of any difficult performance to say that it impresses the beholders with a feeling that it is, after all, simple and easy of execution, and such was the wonderful skill, ease, and accuracy with which FERGUSSON operated that it created this feeling in those who witnessed his procedures.

But to say that FERGUSSON was a magnificent operator is to state what every one knows, and would be yielding him but scant praise. He was an enterprising, bold, practical, and eminently conscientious surgeon, and a man of sound sense and modesty withal. A directness of aim and a certain steadiness of mind and purpose, conjoined with excellent powers of observation and great experience, made him a safe and sound surgeon, while a grasp of certain designs and principles, with great ingenuity in devising methods which his mechanical skill enabled him to execute, made him also a great surgeon—*the* great practical surgeon of our time. If he had not the genius of SYME, he had none of that narrow-mindedness which arose probably out of SYME'S intellectual force and concentration of character. And this reminds us that FERGUSSON was one, and the last, of an illustrious band of men whose connexion with the great Edinburgh school constituted an epoch in its history.

FERGUSSON has left a great name behind him as a surgeon, and his pupils, like those of LISTON, will probably long make him their standard of comparison when gauging the merits of an operator. He advanced by his teaching the standard of practical and conservative surgery; with his own hands he did an enormous amount of actual good to suffering humanity; and the originality and practical value of some of his work will cause his name to be remembered by those who succeed him in the surgery of the future, but knew him not. But standing beside his open grave, as it may almost be said, his friends, his pupils, and the great body of the profession, will recall the honest, large-hearted, generous, and ingenuous nature of the man they have lost. There was nothing mean in him, his professional brethren had implicit confidence in his honour, and his presence at an anxious and difficult operation was a tower of strength to many a young operator. No man was more deservedly popular or generally beloved than the late Sir WILLIAM FERGUSSON. That he was a born surgeon, and a great as well as a good man, is the estimation of all.

A MOVEMENT is on foot to decorate the walls of our hospitals with works of art. These, like other material things, are capable of harbouring dirt, and the phrase "dust and disease," which has been of late in everybody's mouth, is already being associated with paintings and china. The time is opportune for a brief discussion of the questions which the popular phrase involves. Last month Dr. TYNDALL lectured in support of the germ theory at the Royal Institution, and last October in Glasgow. At both places he seemed to consider the germ theory proved, but to both his addresses we raise the objection of partiality. He relied almost entirely on himself and his own observations, and entirely disregarded the labours of those who hold views opposed to his own. Here Dr. TYNDALL'S theories do not require to be repeated at any length. He maintains that germs, possessed of various properties and powers, noxious and innocuous, taint the atmosphere, and that their common name is bacteria. As thistles spring where seeds are sown, so will crops follow the dissemination of germs under favourable circumstances; and as the gardener sows seed, and infers that the crop is the result of the sowing, so we may as fairly attribute the changes in "infusions" to the sowing of germs within them. Thistles are a source of trouble, but germs not always so; they are hurtful only when they get astray. As matter in the wrong place, they become the contagia of acute specific diseases, and lead to varieties of mischief. The importance of the last assertion in scientific and practical medicine is self-evident; so great a question is, in fact, involved that we should hesitate to think it settled on far better evidence than any hitherto advanced. During the later months of 1876 Dr. TYNDALL repeated certain experiments he had made in 1875. In 1875 he found that organic infusions carefully prepared and protected from the atmosphere remained pure; in 1876 like infusions similarly

prepared almost invariably broke down. This instability he ascribed to the infected atmosphere of the Royal Institution, in whose rooms bundle after bundle of hay had been lying teeming with "germs." These defeated all his care. He removed to Kew, renewed his experiments, and in its uncontaminated atmosphere found that protected infusions would not change. This is the additional evidence Dr. TYNDALL advances in support of his views. His work is open to criticism in detail, but as he has not cared even to allude to, much less meet, the work done last year in this country by his opponents, we think it well to draw attention to it. These gentlemen deny the exclusiveness of the germ theory, and maintain the doctrine of spontaneous generation, which at Glasgow last October Dr. TYNDALL declared owed its existence to the untrained experimentation of its advocates. But about two months before this declaration M. PASTEUR, whom Dr. TYNDALL has placed in the ranks of "experimenters who can walk without tripping," had acknowledged an opponent in the right and himself in the wrong. We honour M. PASTEUR all the more for this, for we do not believe in the man who never made a mistake. The illustrious chemist admitted (*Comptes Rendus*, Aug. 6th, 1876) the correctness of certain facts advanced by Dr. BASTIAN, and that the interpretation to be put upon them was the only point of contention, and must settle the question so long in dispute. Immediately afterwards Dr. TYNDALL made a general and unscientific attack on the experimentation of his opponents, and we cannot persuade ourselves that his neglect of their work in his address at the Royal Institution has freed him from the charge of impolicy, not to say injustice, in his Glasgow oration.

Early last year Dr. BASTIAN read before the Royal Society an account of certain experiments on the Fermentation of Urine, the most intractable of infusions, and on whose intractability germ-theorists have greatly depended. In his paper BASTIAN proved—we use the word on the authority of PASTEUR himself—that after careful neutralisation of the urine with liquor potassæ, it yielded and fermented, though shut off from atmospheric germs. Boiled liquor potassæ was added to previously boiled urine, yet the mixture, when influenced by a temperature of 122° F., was stimulated to fermentation, so that within a brief period bacteria swarmed within it. The utmost care against error seems to have been taken; the liquor potassæ of the Pharmacopœia was employed, boiled and protected from subsequent contamination, and, by an ingenious contrivance of tubes, discharged pure into the retort containing the previously-boiled urine. Test experiments were made. In some cases the tubes containing potash were not broken and their contents not mixed with the urine; in such no change, no fermentation, occurred, but on the breakage of the tubes and the neutralisation of the urine, fermentation was set up. After an acknowledgment by opponents of the correctness of these experiments, the maker of the same is certainly justified in assuming that spontaneous generation occurred, unless the potash contained a living ferment. But PASTEUR asserted that some germs will live in liquor potassæ raised to 212° F.! It has been a strong point on the side of the germ-theorists, that in boiled and protected acid urine fermentation will not occur, no matter how favourable the conditions; and it is difficult to conceive a weaker objection to the above experiments than the assertion that living things can survive boiling in liquor potassæ, a reagent which in the cold state dissolves and destroys protoplasm. Dr. TYNDALL has declared himself satisfied with all M. PASTEUR says, and, we suppose, believes that living things can survive the trying experiment mentioned. A man of science should pin himself to no one in particular, nor accept any man's *ipse dixit*, be it favourable or unfavourable to his side of a great question. It seems to us that the best method of meeting opponents' views is a repetition of their experiments, when possibly a result worthy of something better than denunciation might be arrived at. As it is, the interpretation put upon the experiments mentioned has not been controverted, and until this has been done, germ-theorists have no right, in popular addresses or elsewhere, to claim exclusiveness. Even the charge of imperfect experimentation is at least as applicable to the germ-theorists as to those who have been summarily dismissed by it. PASTEUR, in reference to BASTIAN'S experiment, urged that if the liquor potassæ be heated to 230° F., fermentation will not occur; but while BASTIAN had, in the paper quoted and in subsequent communications, insisted on the careful addition of liquor potassæ to the urine, short of its complete neutralisation, PASTEUR simply announced that in his experiments the urine was made alkaline. BASTIAN had recorded the fact that results will not ensue if potash be added in quantity sufficient to render the urine actually alkaline. Thus, it would seem, a perfect experiment, made by the advocates of spontaneous generation, was imperfectly copied by the germ-theorists, and all objections thence arising are absolutely worthless. Apart from dispute altogether, it makes one almost shudder to suppose that PASTEUR'S view is correct, that germs (possessed of greater power than the armies of Europe, according to TYNDALL) are floating daily and hourly around us, and are capable of resisting boiling in liquor potassæ! We question if even the hard peas to which Dr. TYNDALL alluded at the Royal Institution as remaining fertile after boiling in water, would come out unscathed from boiling potash.

Dr. TYNDALL should, in his latest address, have alluded to such experiments and interpretations as those we have mentioned. Neglect of an opponent means loss of ground in the warfare of science, however much it may catch the public for a time. Warfare we have said; we mean friendly warfare. In science it is, we hope, quite possible to disagree with men without despising them: nay, indeed, to disagree with them and yet admire them. We are quite sure that the fear of ridicule would, as he has said, never prevent Professor TYNDALL from owning himself in the wrong; nor do we suppose that his opponents would be inclined to cast ridicule upon so distinguished an observer. We are, however, compelled to deprecate one-sided addresses, which lead the public mind astray—into the belief that the great question of the association of Dust with Disease, and allied questions, are finally settled. There is, as yet, no settlement. Looking at the work of last year, it might indeed be fairly said that the germ-theorists have brought forward no new facts; that the spontaneous-generation party have urged facts which their opponents, in this country at least, have declined to put to the test of repeated experiment. In 1875 at

the Royal Institution Dr. TYNDALL succeeded in preserving certain infusions unchanged; in 1876 he failed to do so. His explanation has been already given. He repeated the old trials in "the pure air of Kew," and again succeeded in preventing fermentation, and claimed victory for his views. In one case, however, at Kew an infusion broke down and fermented. A pin-hole perforation was discovered at the bottom of the tube containing it. By this, said Professor TYNDALL triumphantly, atmospheric germs had entered. On such evidence is the vast question of the contagia of the acute specific diseases to be settled?

THE supporters of the French Medical Bill for prohibiting foreigners from practising in France who have not submitted themselves to a French examination, are very anxious to show that there is nothing in the Bill that is illiberal or calculated to wound international courtesy. M. LÉON LEFORT, Professeur à la Faculté et Membre de l'Académie de Médecine, labours hard to justify it in a long article in *Le XIXème Siècle*. His greatest point in arguing against the English journals which have exposed the narrowness of this legislation, is that we have a similar law in England—that they are simply going to imitate us—"Nous voulons précisement faire en France pour les médecins Anglais ce que vous avez trouvé sage et utile de faire en Angleterre pour les médecins Français et autres; nous vous imitons; cette loi, nous vous l'empruntons; de quoi donc vous plaignez-vous?" This reads very well, but it is not sound. M. LÉON LEFORT, the reputed author of the Bill, should know that we have no law in England similar to that which it is proposed to make in France. We have a law requiring that a medical man, in order to recover fees for medical services, to do public duties, and hold public appointments in England, shall be registered, and he can only be registered on condition of holding diplomas of certain examining bodies in Britain. But a Frenchman, or any other foreigner, may practise in England, according to the present decisions, without an English diploma, or without any diploma at all for that matter, so long as he does not dispense medicines, and does not use medical titles which are either false or which lead the public to think that he holds English qualifications. Let M. LÉON LEFORT produce a case of a Frenchman with a respectable French qualification fined for simply practising in England, and while frankly exposing the fact that his diplomas are French? But the French Bill proposes to fine heavily the holders of the most respectable English qualifications for simply practising in France, even amongst English people. Not only is the English law very different from the proposed French law, but it has been contemplated by English statesmen and by the Medical Council to make it more liberal by giving the Medical Council the power to register such foreign qualifications as they think represent a medical education equal to that represented by English diplomas. We hope we have disposed of M. LEFORT's argument that the promoters of the French Bill are following the example of England. We expect a Republic to be more liberal than ourselves, not less so. He has one other great point in his argument, that under the present law of France—the Minister having power to authorise foreigners to practise—all sorts of quacks and charlatans flock from all countries to practise in France, and succeed in getting authorisation from the Minister. Our correspondents assure us that the Ministers do not abuse their power so much as is represented; but even if they do, it is idle to argue that no other way of keeping quacks out of France could be found than by discourteously and illiberally refusing the right of practice to all foreigners. Professor LEFORT should abandon his defence of this measure, and extricate the profession in France from a position which looks selfish and narrow in the light of his own arguments.

THE peculiar rhythmical irregularity of breathing known as "CHEYNE-STOKES' respiration" is so very striking and unique, and the difficulties surrounding an attempt at its explanation are so very numerous, that any important contribution towards its study is most welcome. A man suffering from aortic incompetency, with considerable atheroma of the peripheral arteries, and presumably of the aorta also, exhibited this symptom in an extremely well-marked form during his residence in the Hôtel Dieu at Lyons, from Sept. 30th to Oct. 28th, 1876, when he died there. His case was watched throughout with considerable interest by M. BIOT, who has published its details, with some very valuable comparative tracings of the pulse and respiration, in Nos. 50 and 51 of the *Lyon Médical* for 1876. These supply, for the first time, a permanent register of the relative frequency of the beats of the heart during the ascending and descending parts of the respiratory cycle, the dyspnœic and apnœic periods respectively. We find that such exact records do not always accord with the previous statements of most writers on this phenomenon, and of course they are of primary significance in the construction of any hypothesis explanatory of its mechanism. CHEYNE, in 1818, first drew notice to this peculiarity of respiration in these words: "For several days his breathing was irregular; it would entirely cease for a quarter of a minute, then it would become perceptible, though very slow; then by degrees it became heaving and quick; and then it would gradually cease again. This revolution in the state of the breathing occupied about a minute, during which there were about thirty acts of respiration." In this case fatty disease of the heart was very marked, whilst the valves were healthy, and the aorta was "studded with steatomatous and earthy concretions." No general attention, however, was directed to the peculiarity and striking character of this symptom until, in 1846, STOKES urged its significance as a sign of fatty degeneration of the heart, believing that its presence was pathognomic of this affection, and that it always betokened a fatal and not far distant termination. That it did not necessarily depend on fatty degeneration was soon shown by Dr. SEATON REID, who described a case in which the muscular structure was healthy, whilst the mitral and aortic valves were both incompetent, the left ventricle was hypertrophied, and the aorta dilated and atheromatous. From a study of this and some similar cases described by other writers, or observed by himself, Dr. HAYDEN has come to the conclusion that the first portion of the aorta has always undergone such a change as to lose its elasticity and become dilated. But we fail to see why this must be a primary necessity any more than fatty degeneration, for cardiac

angina, which, in its essentially neurotic character, is more or less allied to this abnormal respiration, is found with either change alone, with both together, or independent of both. The number of autopsies in these cases is not sufficient to generalise from, and we hope that all such will be recorded in future. In M. BIOT'S case a post-mortem examination was objected to, so that no evidence as to the condition of the heart and aorta, except the valvular lesion as inferred from the bruits heard during life, is available. Dr. HAYDEN found the cardiac beats and pulse unaltered in rate and character during the respiratory changes in rhythm and force; but this is directly at variance with the observations of Dr. LITTLE and M. BIOT, both of whom found the cardiac pulsations remarkably accelerated during the period of apnœa, and slowed during that of dyspnœa. In the example at Lyons more than a score of observations were taken during the month the patient was in the hospital, and hence they must be accepted as absolutely correct. A casual glance at the tracings is sufficient to show the great differences in the two periods. The actual number of pulsations in the apnœic stage of eighteen seconds was 36, whilst in the dyspnœic stage of forty-nine seconds they were only 82, instead of 98, which they should have been if the same ratio had been preserved. Chloral was occasionally given with much benefit as far as the patient's sufferings were concerned, and it always notably diminished the length of the apnœic period, which fell to from ten to twelve seconds. Another new point made out by M. BIOT was that the peculiar sphygmographic trace of aortic insufficiency was more marked during the apnœa, although the cardiac beats were most numerous at the same time. From this he argues that the arterial tension is less than during the period of dyspnœa. Again, the beats of the heart began to quicken as soon as the breathing became superficial, and to slow immediately on the resumption of breathing after its cessation; so that there was a distinct cardiac rhythm as well as a respiratory one, but alternating in time, the one ascending as the other was descending, and *vice versâ*. This is extremely well shown by the register of the tracings of the heart and chest movements. The patient experienced only a vague feeling of uneasiness during the dyspnœa, whilst his intelligence became slightly clouded during the apnœa. The rhythmical irregularity is obviously so dependent on some interference with either the cardiac or pulmonary innervation, or with both, that the attention of physiologists and physicians was quickly drawn to the pneumogastric nerves. Von DUSCH, in 1867, describes this symptom as present in cerebral affections, tumours of the brain, basal meningitis, uræmic coma, &c. We think that in this there must be some mistake. The sighing respiration in late stages of meningitis is so very distinct from that which we have been considering, that we should scarcely think there was any possibility of their being confounded; yet we fear that Von DUSCH must have done this, or otherwise it is impossible to explain the variety and number of cases in which he has noticed so very rare and striking a phenomenon. SCHWEIG'S explanation, that it is due to a contraction of the posterior lacerated foramen, and so causing compression of the vagi, is too absurd to require refutation. Prof. LAYCOCK attributed the phenomenon to a sentient paresis of the respiratory centre, not necessarily dependent on structural or other disease of the heart; but this must happen more frequently by far than do cases of CHEYNE-STOKES' respiration. Dr. HAYDEN would add to this a want of oxygen in the tissues generally, but the tracings of M. BIOT clearly prove that, in some cases at least, the action of the heart, and consequently the rapidity of the arterial circulation, is increased not during the dyspnœa, but during the apnœa. TRAUBE thinks that the accelerated respiration is due to inordinate stimulation of the pneumogastric nerves by the accumulation of carbonic acid in the lungs, and the apnœa to their prolonged over-action; whilst FILEHNE of Erlangen calls in aid the vaso-motor centre, believing that the activity of the respiratory nerve-centre is comparatively much more lowered. M. BIOT'S registers undoubtedly favour TRAUBE'S theory, but the origin of the peculiar rhythm and its steady persistence for weeks in some cases are still without any adequate explanation. More work is demanded on the part of physicians, pathologists, and physiologists, before a satisfactory hypothesis can be hoped for, and M. BIOT shows well one mode in which this must be done.

Annotations.

"Ne quid nimis."

REVACCINATION.

Is it necessary to revaccinate every seven years? Is there such a thing as "experimental testing" of susceptibility or non-susceptibility of the system to small-pox by revaccination? Does the failure of revaccination signify that the person in whom the operation has failed is insusceptible to small-pox? Such is a sample of questions which have of late been sent us from various sources—questions which, judging from the columns of several of our contemporaries of the daily press, would appear to exercise at the present moment certain of the general public as well as of the profession. It is not quite easy to understand how any doubt should exist on the several matters to which these questions refer, seeing the abundant and ready sources of authoritative information (notably Dr. Seaton's "Handbook of Vaccination") accessible with regard to them. The fact remains, however, and we proceed to answer the questions categorically.

First, there is no evidence to show that revaccination, once efficiently performed at or after puberty, need ever be repeated. On the other hand, the frequent repetition of revaccination, which has become common during alarms of small-pox, is distinctly to be deprecated. Such repetitions are, as a rule, futile; they are wasteful of vaccine lymph when lymph is most precious; they tend to unsettle the minds of people regarding some of the best-established facts as to the preservative power of vaccination; and (which ought to be all-sufficient for the profession) they are unnecessary. The official memorandum of the Local Government Board on revaccination says: "Revaccination once properly and successfully performed *does not appear ever to require repetition.*" The nurses and other servants of the London Small-pox Hospital, when they enter the service (unless it be certain that they have already had small-pox), are invariably submitted to vaccination, which in their case generally is revaccination, and is never afterwards repeated; and so perfect is the protection that, though the nurses live in the closest and most constant attendance on small-pox patients, and though also the other servants are in various ways exposed

to special chances of infection, the resident surgeon of the hospital, during his forty-one years of office there, has never known small-pox affect any one of these nurses or servants. Some thoughtful practitioners are of opinion that the occurrence of severe general diseases after revaccination, such as enteric fever, may weaken the protective influence of revaccination, and that where this has happened, and generally where, long after revaccination, a person is brought into immediate contact with small-pox, a second revaccination is desirable. This is, however, a very different thing from the promiscuous revaccination which has come into fashion in periods of epidemic small-pox; and, although probably an unnecessary precaution, it need not be discouraged.

Next, as to the success or non-success of revaccination as a means of determining the susceptibility of an individual to small-pox, the notion is wholly fallacious. Revaccination succeeds equally well upon the well-vaccinated as upon the ill-vaccinated, and vaccination is as successful after small-pox as revaccination after primary vaccination. The local effects of revaccination may be produced again and again in the same individual. Dr. Seaton says on this subject, "The local results *obtained by the revaccination of any individual give us absolutely no information whatever as to the constitutional condition in which the revaccinated person was with regard to liability to contract small-pox.* It has frequently been argued, and is indeed often to be heard said now, that if a revaccination cannot be made to take, or if it take only in a modified way, it is evidence that the constitution would not at the time take small-pox; whereas, if a complete local result follows, it may be assumed that the protection of the primary vaccination had worn out, and that the person was in danger, or at all events in more danger than in the former case, of taking variolous infection." The erroneousness of this view is proved by certain facts derived from revaccinations in the Wurtemburg and our own army, and which show, if the view had been correct, that 319 out of every thousand persons who had had small-pox, 310 out of every thousand who had been well-vaccinated, but only 281 out of every thousand who had been ill-vaccinated, were in present danger of small-pox; and of the soldiers (not recruits) in our own army, 451, 485, and 237 would represent the ratios in the three classes respectively, which is clearly a *reductio ad absurdum*. Our knowledge that revaccination exhausts the exceedingly limited liability to small-pox that may exist, or may recur, after primary vaccination, rests upon a broad basis of observation, but we are unable in any given case to judge of the existence of this liability from the effects or non-effects of the operation.

LIME- AND LEMON-JUICE.

THE unfortunate circumstances in connexion with the Arctic Expedition, and the consequent official inquiry, have directed much general attention to antiscorbutics. We have received a letter (too long for insertion) from a correspondent, who signs himself "Vigil," indicating that the quality of the lime- and lemon-juice now used in the mercantile marine may not, after all, be so superlatively good, in spite of the Duke of Richmond's Act. The suspicion is partially grounded upon the fact that a slight increase of scurvy has occurred during the past year, and also upon the supposition that the plan of examination of juice is not sufficiently stringent or satisfactory. When the antiscorbutic clauses of the Act were inaugurated, inspectors were appointed in London and also at the outports, whose business it was, as we are reminded in the letter above quoted, not only to analyse the samples sent in, but supervise the process of mixing with spirit and touting in the various bonded warehouses. This mode of inspection was retained for, we believe, about six months, when the tenure of office of the inspectors was suddenly, and to them very unexpectedly, "determined," and the work of analysis was consigned to the care of the Inland Revenue laboratory officials at Somerset House. Samples of juice are now sent up to the laboratory from all parts of the kingdom, and accepted or rejected, according to the Board of Trade standard of excellence. If accepted, the bulk of juice represented by this or that sample is mixed in bond with 10 per cent. of rum or other spirit, touted, and stamped with the Customs' seal, and eventually put on board ship with other bonded stores. We are informed that during the past two years more than 30,000 gallons of juice have been rejected by the officers of the Inland Revenue, as not coming up to the Board of Trade standard. "Vigil" suggests, that since personal supervision of the process at the outports has been dispensed with, no adequate security exists that the bulk of the juice sent out for the use of seamen is always, so to speak, "up to sample." This is possible, of course, but the manifest remedy is to subject all juice found on a ship where cases of scurvy have occurred to a second analysis. This has been done in several cases by or at the request of the Board's medical referees, and in all these instances the quality of the juice was good. A perusal of the latest Parliamentary Papers issued last year on this subject goes to prove that the improper serving out of the juice is of common occurrence. The steward, not wilfully or from any motives of economy, but carelessly, neglects to give each man his proper quantity, so that in reality, for days together, not much more than half the regulation ounce is taken by the majority of the men. This is a defect which it is difficult to remedy by legislation, but the authorities at Whitehall are (and have been since 1867) most distinctly responsible for the purity of all juice shipped, and we believe that practically no adulterated juice is now sent to sea for the use of the crew.

THE PRELIMINARY SCIENTIFIC M.B. EXAMINATION AT THE UNIVERSITY OF LONDON.

THE changes in the programme for this examination, to which we referred on the 20th ult., have been approved by the Senate, and merely await the formal sanction of the Home Secretary. They may be looked on, therefore, as finally settled, and as they are so very extensive, we purpose pointing out in detail the chief differences between them and the present regulations. Of course they will not come into operation at the next examination in July, but will affect all candidates after that date. In Inorganic Chemistry the only addition is the "Principles of Spectrum Analysis"; in other respects the syllabus remains practically the same. At the head of the list of subjects in Experimental Physics, the candidate is informed that "he will be expected to show a general acquaintance with the methods and apparatus by which the leading principles of physics, as enumerated below, can be illustrated and applied." Acoustics is introduced, a somewhat more extensive acquaintance with Optics will be demanded, and the laws affecting the conservation and transmutation of Energy appear for the first time. Although the arrangement of the other branches of this subject is modified, the amount of knowledge required therein is scarcely affected. In Botany, much greater prominence is given to the physiological division of the science, and the structure, functions, and life history of many of the lower vegetable organisms are introduced. The list of the British natural orders has not been altered, and the practical examination also remains as before. The changes in Zoology are by far the greatest and most important. Instead of a knowledge of the distinctive characters and chief peculiarities of the different groups of animals, the programme is laid out on a physiological

basis. The structure and life-history of several typical animals in the principal divisions of the animal kingdom are supplemented by the requirement of the comparative structure of the principal systems of organs, such as the digestive, circulatory, respiratory, secretory, and nervous. We notice also that the embryonic development of the frog, bird, and mammal is added. This will entail a much greater acquaintance with comparative anatomy and physiology than has been considered sufficient up to the present time. Moreover, this addition to the candidate's knowledge is not to be merely theoretical, for he must be prepared to examine microscopically, to dissect, and to describe specimens of the typical animals which are enumerated, and of the parts of these animals. In the Examinations for Honours the alterations that have been made will ensure a thoroughly practical knowledge of these sciences, for six hours' practical work is added in Chemistry, Botany, and Zoology; and in the former, Quantitative as well as Qualitative Analyses will be demanded.

May we ask why there is no provision for a similar practical examination in Experimental Physics? Why should the University stop short of this, and so spoil the symmetry of such an advanced programme? As the Senate has been persuaded by its scientific advisers to push forward so rapidly the "sciences of the future"—physiology and physics,—we are somewhat surprised at the omission. The old medical motto, "Ars longa, vita brevis," seems to have been ignored altogether; and we anticipate that when these new regulations are in full work, even a less number of M.D. degrees will be granted than nine or ten per annum, which has been the average since the foundation of the University in 1838. Scientific reformers seem to forget that universality in science is not easily acquired, and that medical students may perhaps be even better employed than in spending such a large measure of their time in becoming chemists, biologists, and physicists. Would not a thorough knowledge of one branch of science, at the option of the candidate, and a much slighter acquaintance with others, have been far preferable, by securing for the candidate the advantage of a due amount of scientific training, and leaving his energies comparatively fresh and unexhausted for his purely medical studies, which are by no means unexacting in their demands on his mental and physical vigour?

THE CARLISLE-PLACE ORPHANAGE.

WE regret to note that Mr. Cross, in replying to Mr. Whalley's very justifiable inquiry concerning the infant mortality in the Carlisle-place Orphanage, should have quoted the report presented to the Westminster Board of Works by Mr. Barnard Holt. We have rarely read a document more likely to produce an erroneous impression than the report in question. Mr. Holt states that he cannot speak too highly of the general cleanliness of the institution, and certainly on the day of his visit, the 18th of January last, men were busy whitewashing the walls; but, on that same day, our Commissioners discovered some bedding in a state of positive filth, and examined a sink and closets which were in anything but a creditable condition. Of course after several weeks of public agitation it was natural that some efforts should be made to improve the condition of the orphanage, but had Mr. Holt inquired into the state of affairs at the time the great mortality occurred—that is to say, before the recent disclosures, he would have found the children were not always surrounded by the same degree of cleanliness. Nor did the infants enjoy 800 cubic feet of air each, as it might be inferred from Mr. Holt's assertion. The room, our Commissioners were informed by the authorities at the convent itself, measures 2978 cubic feet, and on the 18th of January it contained, we believe, only four infants, thus allowing 744 feet for each child. But Mr. Holt should have known that, as a rule, the nursery generally contained six, and not four, infants, and that, therefore, the cubic area allowed for each was only 496 instead of 800 feet. Nor can we agree that the "ventilation is good," when we find that it is derived either from an adjoining school-room constantly thronged with children, or from a room set apart for children suffering from infectious and zymotic diseases! As for the window, the most elementary principles of ventilation would condemn so clumsy a contrivance which, opening as a door, allows violent gusts of wind and damp air to strike the poor infants who face this dangerous aperture. Mr. Holt perceives, however, but one point worthy of criticism, and timidly ventures to condemn what he terms a stove as too big for the room in which it is placed. But why convey a false impression by calling a large kitchen range with baking-oven, boiler, &c., all complete for cooking on an extensive scale, a stove? Many persons might consider that the word stove, if unaccompanied with any further explanation, implied merely a warming apparatus instead of a formidable kitchener. Altogether, Mr. Holt appears to be more enthusiastic about the convent than are the sisters themselves, and more indulgent than their own medical attendant. Such defence will do the institution more harm than good.

MODERATE DRINKING.

SIR HENRY THOMPSON presided at a public meeting of the National Temperance League on the 7th of February, and gave his opinion against moderate drinking. "Our controversy," he is reported to have said, "is with the great mass of people who believed that alcoholic or fermented liquors were good and necessary articles of diet for men, women, and children;" and again, "he doubted whether, in many cases, or perhaps in any case, alcohol was valuable in the dietary of healthy people." Men of a convivial turn will attribute such cold views of the use of alcohol and fermented liquors to dyspepsia or some other physical inability to enjoy them. But they are the views of a man of large special experience, and should have great consideration. Sir Henry admits that for purposes of very exceptional work, muscular or nervous, a man might use alcohol, and, further, that the effect of it on persons is so different that no dogmatic rule can be laid down for everybody. There is a moderation in this language which befits a medical speaker, and which, in our opinion, greatly adds to its strength. Sir Henry's views on the use of these articles in what would be considered moderate quantities in diet have long been before our readers, and constitute a most valuable contribution to the study of lithiasis, one of those errors of assimilation which we believe to be at the root of a great deal of disease in middle and advanced life. Dr. Richardson refuted the notion that alcohol gave warmth and strength. By accelerating the action of the heart, it gave rise to excessive muscular action and waste of tissue.

There is a difficulty in defining "moderate" drinking, as Sir Henry Thompson said. And it is almost equally difficult to be moderate in speaking about this subject, though we are convinced that medical men will do good in proportion as their speech is judicial and scientific. We doubt whether it is right to say that moderate drinking is the parent of excessive drinking. But what is moderate drinking? We can best get at a notion of it by saying what it is not. Drinking early in the day is not consistent with moderate drinking. The man who begins the day with "a soda and brandy" has very little respect for his constitution; and if he does not alter his habits they will alter his health. Odd glasses of beer and glasses of spirit in a forenoon do not

come within the range of moderate drinking. They will show themselves in some rotundity of feature or figure, or alteration of colour, some dyspepsia, or lithiasis, or rheumatism. That is not moderate drinking which adds fifteen or twenty beats to the pulse, or which flushes the face. Finally, all casual drinking is bad, presumably, and not moderate drinking. The system will not receive food merely as a matter of conviviality at all sorts of odd hours. Still less will it receive with impunity drink in this way. Drinking which disturbs sleep, either by making it heavy, or by driving it away, is not moderate. For want of thought on these points many people who would be shocked to be considered immoderate charge their blood and tissues with drink so continuously that the system, though never saturated with, is never free from, alcohol. Moderate drinking is that which consists with a clean tongue, a good appetite, a slow pulse, a cool skin, a clear head, a steady hand, good walking power, and light refreshing sleep. It is associated with meals, and is entirely subordinated to more convenient and less objectionable forms of food. That such drinking produces drunkenness has yet to be proved, as it has yet to be proved to be essential to health.

THE CLIMATE OF JAPAN.

AN interesting paper on this subject, which may, perhaps, be of service to some of our younger readers, is contained in the last number of the "Archives de Médecine Navale," from the pen of Dr. G. Maget, who has been long resident in the Japanese islands, and who has travelled through a large part of them. Collectively they present a surface nearly one-third larger than that of France, with a population of thirty-six millions. The vegetable productions are varied, abundant, and useful. The bamboo grows luxuriantly, rice is cultivated with the dwarf palm, the wax tree, and the cotton tree. The banana, the pomegranate, the orange, with the sugar-cane and the indigo plant, grow freely. The whole country is liable to monsoons; a cold monsoon from the north-east visiting it from October to February, its commencement being announced by deluges of rain and terrible tornadoes, and a hot monsoon blowing from the south-west, which lasts from May to August, also accompanied by copious rains. The great meridional length of the islands of Niphon and Yesso, which constitute the greater part of Japan, causes the climate and temperature to vary greatly in different parts, and M. Maget distinguishes six regions. The first is the most northern, and is named Saghalien, and is boreal; it is little known. The second is that of Yesso, also cold, and hitherto but slightly investigated. The third and fourth correspond to the northern and middle and southern parts of the Island of Niphon. The northern region of that island, comprised between the 42° and 37° N. lat., is comparable to the temperate climate of the north of England, though the extremes of heat and cold are much greater. The central region, in which Yokohama is situated, is similar to that of the south-west of France, but again with extremes of considerable variation. In the southern region the isothermic lines undergo a great declension, and the extremes are very wide. The fifth region, that of Sikok, in which is Nagasaki, resembles that of Provence in its northern and that of Sicily in its southern portions. The sixth climate is that of the islands making up the Southern Archipelago of the south of Japan, and is tropical in its character; it has not been studied. The typhoons occur at the end of April and commencement of September, and coincide with the equinoxes and the reversal of the monsoons. These terrific storms are stated by M. Maget to defy description. They are probably huge revolving discs of air, resembling those recently so interestingly exhibited *in petto* by Mr. Osborne Reynolds at the Royal Institution. Their diameter varies from sixty to four hundred and fifty miles, their rapidity of movement is prodigious, and the damage done by them immense. The only fortunate circumstance about them is that they are of short duration. M. Maget recommends Japan as an admirable place for those who are debilitated by a long sojourn on the coasts of Asia. The best parts are near Kolie and Hiogo, where the temperature is tolerably equable, the soil sandy, and good water abundant.

THE "TRANSPIRABILITY" OF THE BLOOD.

THE course of the circulation of the blood must, it is evident, be largely influenced by the facility, or the reverse, with which the blood passes through the vessels. The facility with which fluids pass through tubes of small calibre was the subject of much study by the late Professor Graham, who gave to it the term "transpirability," and regarded it as a special character of fluids. M. Haro has lately communicated to the Académie des Sciences the results of some careful study of this property of the blood. Strictly speaking, the transpirability is the relation between the period occupied by the flow of a certain quantity of the liquid through a capillary tube, and the period occupied by the flow of the same quantity of distilled water at the same temperature. It thus represents the passive resistance which different liquids offer to the flow through these tubes. The property is one which is of great interest to both the physiologist and the physician. M. Haro has ascertained that warmth increases the flow of defibrinated blood, and this effect is the more marked the richer the blood is in red corpuscles. Heat affects the movement of serum very much as it affects the movement of distilled water. The effect is much greater when defibrinated blood moves slowly through a very narrow tube. But since the movement of the blood through the capillaries is much slower than can be represented artificially, temperature will necessarily have a very considerable influence on the rapidity of the circulation. It is generally admitted that heat modifies the size of the small vessels, and it is said to increase the force of the heart's action; but it would seem that each change of temperature, however slight, in the mass of the blood, will have the same effect, and modify the resistance to the movement of the blood in the capillaries. Again, M. Haro has found that defibrinated blood through which carbonic acid has been passed, and from which all bubbles of gas have been removed by filtration through fine muslin, passes more slowly than the same blood which has been thoroughly exposed to air. May not this effect of carbonic acid explain many physiological and pathological phenomena hitherto obscure? The *besoin de respirer*, M. Haro thinks, may be due in part to the difficulty which the blood finds in traversing the vessels of the lung; and he speculates that the carbonised blood may stimulate the inspiratory fibres of the pneumogastric in the lung, while it has no action on the laryngeal filaments which are expiratory. In asphyxia by carbonic acid gas the pulse is slowed and the blood-pressure increased. This is attributed commonly to the effect of the carbonic acid on the vaso-motor nerves, but may be in part due to its effect on the movement of the blood through the minute vessels.

Sulphuric ether, which is quite free from alcohol, retards the flow of defibrinated blood, of serum, and of water. This is a remarkable effect, since ether itself flows through tubes with great facility; its transpirability is three times as great as that of water, being represented by the number ·299. Chloroform retards the movement of water and of serum, while it increases the flow of defibrinated blood. This is explained by the fact that, although very transpirable, being represented by the fraction ·396, it probably acts

on water as ether does, while it has a special action on the constituents of the blood. The biliary salts also have a very marked influence; a solution of tauro-cholate of soda retards in a very remarkable manner the flow of defibrinated blood, while its effect on serum is scarcely perceptible. The transpirability of the blood of a dog is changed from 5·175 to 7·25 under the influence of these salts. Mr. Haro attributes to this effect the slowness of the pulse in jaundice, but concerning this phenomenon the researches of Dr. Wickham Legg have taught a good deal more than this.

HOSPITAL TREATMENT OF SCARLET FEVER IN LONDON IN 1876.

THE Registrar-General states in a late weekly return that 1355 completed cases of scarlet fever were treated in hospital in London in 1876, including 804 in the Metropolitan Asylum Hospitals and 551 in the London Fever Hospital. Among the 804 cases in the Metropolitan Asylum Hospitals the mortality was equal to 10·4 per cent., against 14·0 per cent. among the 1077 completed cases recorded in the same hospitals in 1875. Attention is called to the fact that whereas the percentage of deaths to recoveries was only 8·1 among 321 cases treated at the Homerton Fever Hospital in 1876, it was 12·4 per cent. among the 483 cases treated in the similar institution at Stockwell. In the London Fever Hospital, where the patients are probably drawn from a class living under better sanitary conditions than that which supplies most of the patients in the metropolitan asylums, the proportion of deaths to recoveries among the 551 completed cases recorded in 1876 was 9·1 per cent. Thus the average mortality among the whole of the 1355 cases was a trifle more than 10 per cent. As 2297 deaths from scarlet fever were registered in London in 1876, the Registrar-General estimates, from the foregoing statistics, that at least 22,885 cases of scarlet fever occurred within the metropolitan registration district during the year. As, however, it is more than probable that the average mortality out of hospital is lower than it is in hospital, the number of cases is probably considerably under-estimated. As nearly 70 per cent. of the deaths from scarlet fever occur among children under five years of age, it may be estimated that at the most moderate computation 15,000 out of the 453,171 children living at those ages in London suffered from scarlet fever during the year, equal to about 1 in every 30.

INFECTIOUS DISEASE HOSPITALS.

DR. THORNE THORNE has been lately holding an inquiry in Portsmouth on the prevalence of scarlet fever in that town, and from a statement that he made to the Town Council at the time we gather the following significant facts. The total number of cases in the epidemic under consideration amounted to about 4000. This formidable outbreak began with two cases in a crowded part of the borough. For three months the outbreak was confined to the immediate locality where these cases arose, some ninety cases occurring in this period within three hundred yards of the house where the first two cases happened. The earliest of the cases were of a class that could not be dealt with as paupers, and the mother indignantly rejected a proposition for their removal, for the purpose of isolation, to the workhouse infectious wards, but she would willingly have had them removed to a non-pauper infectious hospital had there been one. Portsmouth does not possess such a hospital, and the municipality have failed to provide one. Hence isolation was out of the question, and the disease spread unchecked. There seems to be little doubt, from Dr. Thorne's report, that for three months the spread of the disease might have been largely if not wholly controlled had Portsmouth possessed a sufficient infectious disease hospital, and that for want of such a hospital the outbreak of scarlet fever grew from two cases to 4000, with proportionate mortality. We trust that other municipalities will learn the lesson which ought to be learned from this outbreak. We shall look with interest for Dr. Thorne Thorne's report of his inquiry. The value of his statement, and doubtless also of his subsequent report, as he makes clearly apparent, rests upon the work of the medical officer of health, Mr. Turner. This has been done so well that all the earlier cases of the epidemic and their relation to each other, and the subsequent progress of the outbreak, appear to have been carefully worked out. This is the sort of work which alone carries conviction to a local authority, and which gives power to a medical officer of health.

GIUSEPPE DE NOTARIS.

OUR correspondent in Rome writes:—Medical botany has lost an able representative in Giuseppe de Notaris, one of the most distinguished of the phalanx of physicians in the Italian Senate. He was born at Milan in 1805; he pursued his medical studies at the University of Pavia, where he graduated with high honours in 1830, and two years thereafter he became assistant Professor of Natural History in the Royal Lyceum of Milan. From that post he passed in 1834 to Turin, where he was appointed junior Lecturer in Botany to the University. In 1839 he succeeded to the important Chair of Botany in the University of Genoa, the duties of which included the superintendence of the great botanic garden attached to it, and there he remained till 1872. His works are voluminous, but all of them valuable for original research and independent judgment. They are chiefly monographs reprinted from the "Atti della Reale Accademia di Torino," and from the scientific journals of Genoa. No botanist need be reminded of the high inductive power displayed in his "Briologia Italiana," his "Sferiacei Italici," his "Specimen Algologiæ Liquisticæ," and his "Syllabus Museorum Italiæ." His merits were recognised by nearly every learned body in Europe, and our own Linnæan Society vied with that of Upsal and of Moscow in doing him honour. For the last four years he held the Chair of Botany and Medicine in the University of Rome, and though at an advanced age, continued to attract numerous classes, when death summoned him unexpectedly away. His funeral was a public one, the cords of the hearse being held by the Minister of Public Instruction, the Minister of the Interior, the syndic, the rector of the University, the President of the "Accademia dei Lincei," the President of the Senate, the Hon. Signor Borromeo, as representing the Chamber of Deputies; and the distinguished chemist, Professor Cannizzaro.

ALLEGED DEATH FROM VACCINATION.

ANOTHER alleged death from erysipelas occurring after vaccination is recorded. The event happened at Leeds. A child was vaccinated successfully by Mr. Currie, of that town, on Jan. 23rd. The case appears to have followed a normal course until the development of the areola. At this period of the case, or a little later (the dates are not given with precision in the report before us), erysipelas intervened, affecting first the vaccinated arm and then extending to the body. The child died on Feb. 9th (?), the eighteenth day after vaccination. An inquest was held in this case, when it was shown in evidence that the day after vaccination the child had been burnt on the vaccinated arm. A question arose as to whether the erysipelas had started from the burn or the vaccinated spot, but upon this important point no definite evidence seems to have been forthcoming. The

jury found a verdict of death from erysipelas, but they could not agree upon the cause of the erysipelas. No evidence appears to have been given of the prevalence or not of erysipelas unconnected with vaccination in the locality where the case happened. It is an unfortunate fact that vaccination should, in exceedingly rare cases, be liable to certain of the dangers attending other surgical operations; but that such a contingency, however lamentable, should be held to be inimical to the practice of vaccination is an example of craziness possible only, we hope, among anti-vaccinationists.

SANITATION AT HOME AND ABROAD.

UNLESS public health organisation and legislation in England soon enter on a new phase, we shall before long be left far behind by our continental neighbours in matters appertaining to sanitation. We have received a copy of the first of a new series of weekly returns for the city of Christiania, which bears unmistakable evidence that the capital of Norway is considerably in advance of the capital of England in the organisation of its public hygiene. Christiania is a city with an estimated population not exceeding 79,000 persons. The weekly return in question records, however, the number of living and still-births, distinguishing the legitimate and illegitimate, and, as regards the deaths, shows the ages of the deceased in eight groups, and the diseases under sixteen headings. Beyond this the return records the number of new *cases* of epidemic disease reported by the medical practitioners during the week, and a note appended to these figures states that it is compulsory upon a medical practitioner to report to the sanitary authority all cases of infectious diseases coming under his notice. With reference to the causes of death, it is stated that they are generally reported by the medical practitioner, but in cases where no medical practitioner has been in attendance, they are verified by professional certifiers. It appears, therefore, that in two important essentials of effective sanitation Christiania is far ahead of London or, indeed, of any large town of the United Kingdom. Not only is scientific evidence forthcoming of the cause of every death, but every *case* of infectious disease is compulsorily reported to the sanitary authority. It is far from satisfactory to find that while such important sanitary progress is being made abroad, sanitation is standing still at home for want of a Minister of Health and of a capable Central Health Authority.

A RESUSCITATED CALUMNY.

IN more than one quarter during the past week a calumny has been revived which we had supposed might be counted among the exploded scandals of a day when men were more easily influenced by strong prejudices than in these sober and, let us hope, sensible times. It was a base wrong to assert that KNOX, the anatomist, lay open to suspicion of complicity with BURKE and HARE in their atrocious murders. The facts were simply these:—The law at that time made no provision for the supply of subjects for dissection, and it was necessary for the anatomist to receive the bodies brought him without asking questions as to the manner in which they were procured. KNOX was necessarily blind to the mode of obtaining the supplies he purchased. He may have suspected they were taken from burying-grounds, and avoided questioning the bearers on the subject, but we have no hesitation in giving the most unqualified denial to the calumny which has been resuscitated charging KNOX with a knowledge or suspicion of foul practices. It is much to be regretted that a statement, most serious in its effects on the life and happiness of the man against whom it was originally levelled, should have been repeated at this conjuncture, apparently with no better purpose than to give colour to remarks on the lamented death of the distinguished pupil of KNOX, the late Sir WILLIAM FERGUSSON, whose high honour alone might have protected his master's memory from untimely reproach.

THE CASE OF THE WOMAN SULLIVAN.

THE long-pending "consideration" of the dispute between Mr. FENTON and the Board of Guardians of St. George's Union, relative to the death of Ellen Sullivan in November last, has been brought to a close. The Local Government Board, in a timid, trimming letter—just such a communication as a Board so strangely constituted and empowered might be expected to address to a local authority of which it apparently stands in dread,—has ventured to say it does "not think that the proceedings of Mr. FENTON were in any way censurable." An independent Central Department would have declared that they were highly commendable. By way of a set off to even this mild censure of the guardians, the Local Government Board concurs in the impression that, as a rule, a medical officer should not himself make a post-mortem examination in a case where a dispute between the guardians and their officer is likely to ensue; but the Board feebly reminds the guardians that it is for the coroner to select the examiner. Upon this the guardians of St. George's, with the effrontery of officialism, write to Mr. Bedford, requesting him in future to carry out this principle. We venture to hope the coroner has treated the remonstrance with the contempt it deserves. The Local Government Board is further of opinion that medical officers should not threaten their superiors by warning a relieving officer that, in case of evil consequences supervening upon the neglect to supply necessaries prescribed, he will be held responsible. Medical officers will do wisely, consulting their own safety and the welfare of the necessitous poor, by utterly disregarding this puerile remark. Not only should relieving officers be held responsible, but a public investigation requested, in *every* case of death following official neglect. Guardians have yet to be taught that their function is to guard the poor, not less than the rates.

ANIMAL VACCINATION.

MR. SCLATER-BOOTH'S answer to the question put in the House of Commons as to animal vaccination proves that for the present this practice, if cultivated in this country at all, must be cultivated by private individuals and as a private adventure. It would appear that the medical officer of the Local Government Board, Dr. Seaton, does not as yet see reason to modify the views he expressed on the subject in 1869. He then reported unfavourably as to animal vaccination, first from the large percentage of failures from the use of the animalised lymph as compared with the humanised lymph, and next from the instability of the former lymph. It would appear then that, as to the former question, the recent asserted successes in the use of animalised lymph in Belgium, which would if accurately stated, equal any that have been obtained from humanised lymph, are not yet received by Dr. Seaton. It is not to be anticipated that, after this notice of the subject in the House of Commons, the Belgian vaccination authorities will suffer any doubt to rest in this country upon their recent experience; and we venture to think that the time has come when it would be well if Dr. Seaton, or one of his subordinates in the medical department of the Local Government Board, were to make a further inquiry into the state of animal vaccination in Belgium and elsewhere on the continent. The feeling is growing stronger and stronger among the profession that our present system of vaccination should be

supplemented by animal vaccination, and this will only be practicable in any proper sense with the aid of the Government.

UNLAWFUL CERTIFICATION BY UNQUALIFIED ASSISTANTS.

IN the Woolwich Police Court on Tuesday last, the secretary of the East London Medical Defence Association, through the solicitors to the Association, charged an unqualified assistant, upon two summonses, with unlawfully filling up a certificate of the cause of death of a child for the purposes of the Births and Deaths Registration Act. The certificate alleged the cause of death to have been "croup," and it was signed in the name of the assistant "pro" his employer, whose name and qualifications were also added to the certificate, whereas only the assistant had attended the child. Upon receiving from the defendant a written agreement, drawn up by the solicitors to the Association, not to practise again until after he has obtained a legal qualification, and upon payment by him of £13 costs, the complaint, by permission of the magistrate, was withdrawn by the Association. The Association acted mercifully in withdrawing this complaint; but it cannot always do so. Practitioners who are unhappily identified with this system of false certification should take speedy means of releasing themselves from the possibility of being most seriously compromised.

SANITARY CONDITION OF THE WAR OFFICE.

THE reply of Mr. Gerard Noel in the House of Commons on Tuesday last effectually disposes of the unfounded statements which have, from time to time, appeared in print respecting the sanitary condition of the War Office. Although the result of the labours of the Committee appointed to inquire into the hygienic circumstances of the various offices has not yet been published, Mr. Noel was able to give an assurance that the sickness and mortality among the officers and clerks employed were in no way dependent upon an unhealthy state of the buildings. It will, perhaps, be disappointing, to those who so persistently ascribed the illness which occurred to the defective condition of the War Office, to find that the department is free from the reproaches flung at it; but we may hope that the pointed denial offered them in the issue of the present investigation will make them more careful in future of committing themselves to allegations which they have no means of verifying.

"BRAIN CULTURE."

IN a sensible and sound lecture on this all-important subject, delivered before the Bradford Philosophical Society on the 8th inst., Dr. Crichton Browne gave prominence to the intimate relations of food and brain-work, inculcating a view which it is of daily increasing concern the profession and the public should not overlook. Citing Professor Claughton's familiar comparison of the relative strength of the leopard and the deer—the vegetable feeder exhibiting greater power of *endurance*, the flesh-eater a reserve of force more rapidly liberated for a *rush*, Dr. Crichton Browne applied the principle elucidated to brain nutrition. He showed that a too highly nitrogenous diet will induce a tendency to explosive force, or irritability. The habit of eating excessive quantities of animal food, particularly in cases where the individual is exposed to many and frequent causes of irritation, was condemned, and the wisdom of treating "minor degrees of brain irritability by a reduction of the butcher's bill" suggested. This is a matter of strong practical interest. The soundness of the policy recommended has been attested by direct experiment. Dr. Crichton Browne directs attention to the increasing number of persons met muttering and gesticulating to themselves in the streets. This he regards as an ominous sign, betokening an increased tendency to "irritability of brain-tissue, and a loss of inhibitory power." The power of inhibition, implying restraint and control, is undoubtedly the conservative and health-preserving faculty, besides which it gives the steadiness of reserve to character and action. The practical consideration thus again pressed on public attention deserves higher consideration than it has received. Further inquiry is needed as to the precise relations of food and brain-force. Pending the result of deeper research, experiment and reason combine to show the need of restraint in the use of animal food where sustained intellectual work is required, rather than explosive mental effort.

PENALTIES OF DUELLING.

THE late absurd *fiasco* in which Mr. Gordon Bennett, of New York, took a very prominent part, accompanied by a Dr. Phelps, has led the medical press of America to lay before the profession the penalties incurred by accessories or participators in the illegal act. Thus, by the laws of the State of Maine, it appears that the presence of a surgeon at a duel, though no homicide ensues, is punishable by imprisonment for not more than twenty years, or by a fine not exceeding one thousand dollars, and by ineligibility for any office of honour, profit, or trust, for twenty years after conviction; while an engagement to act in a medical capacity at a meeting is punishable by an imprisonment for not less than one year and deprivation of civil rights for five years. In Vermont a surgeon who attends a duel in which either party is killed is imprisoned for a period of not less than five years, heavily fined, and for ever deprived of holding a place under the constitution of the State. In Massachusetts and Rhode Island the penalties incurred by surgeons who infringe the laws regarding duelling are also severe.

COLONIAL MEDICAL SCHOOLS.

DR. LANGHAM DALE, Vice-Chancellor of the University of Cape Town, presided about a month ago at a congregation for conferring degrees, and, among other things, pressed earnestly for the establishment of a medical school. We cannot but think Dr. Dale's proposition somewhat premature. Cape Colony is by no means extensive or populous, and, as we take it, can be fed from the schools of the United Kingdom to the advantage of the inhabitants. Small medical schools in the British provinces are proverbially failures, and we counsel the University authorities of Cape Town to consider whether, by the establishment of a medical school at the present time, they are not likely to saddle a flourishing institution with a costly and unprofitable sectional branch.

THE GENERAL MEDICAL COUNCIL.

THE General Medical Council is likely to meet at the end of April. Why should it not meet immediately and try to avert the narrow legislation which is threatened in France? By April the opportunity of doing so may have passed away. It is gratifying to know that Sir Dominic Corrigan has been re-elected to represent the Queen's University. He is one of the liveliest, most independent, and withal shrewdest members of the Council; and the proceedings without his contribution would often be "mighty dull."

RESPIRATION OF THE FŒTUS.

DR. ZWEIFEL, in an article in the *Archiv der Gynæcology*, states that he has demonstrated the presence of oxyhæmoglobin in the blood of the vessels of the umbilical cord by means of the spectroscope, thus showing that it contains oxygen. In other experiments he opened the gravid uterus,

and, on producing asphyxia artificially, observed, after the lapse of a short time, the bright blood of the umbilical vein became dark, taking the precaution of immersing the animal in a bath of common salt. He found that asphyxia was produced in the fœtus, when the supply of air was cut off in the mother, in about the same time as in the newly-born animal.

THE PATHOLOGICAL SOCIETY.

WE are informed that, in consequence of the large number of specimens illustrative of visceral syphilis that still remain to be brought forward, the whole of the meeting on Tuesday next will be occupied with their exhibition and discussion. The lesions of the organs of circulation and respiration will chiefly occupy attention. Mr. Rickman Godlee's communication upon Vaccinia and Variola has been postponed until the following meeting.

DR. BARCLAY, medical officer of health for Chelsea, has again brought before the notice of the Vestry of the district the disgraceful sanitary condition of a cluster of houses occupied, at a very low rent, by Irish people, a large number of whom are attacked from time to time with fever. In a period of three months thirty cases of fever were reported, the majority of them being typhus. We observe that Dr. Edwards Crisp, who is a member of the Chelsea Vestry, lent his aid in the task of convincing the Board of the standing danger to public health which these places, known as Oakham-street and Wickham-place, constitute. We trust it will be found possible to apply the provisions of the Artisans' Dwellings Acts to the houses without delay. Their structural defects are probably too great to warrant the employment of a less sweeping measure. Certainly patching and tinkering will not offer much hope of success.

WE have received a pamphlet (republished from the *Indian Medical Gazette*) from Surgeon-Major J. B. Hamilton, entitled "Observations on 'Tinning' Cooking Pots in India," in which the dangers of lead-poisoning from the use of cooking utensils whose inner surfaces have been coated with a preparation in which lead is an ingredient, are illustrated. Dr. Hamilton is of opinion that many cases of anomalous illness coming under the hands of the regimental surgeon are due to this generally unsuspected cause. Lead is so much cheaper than tin in the Indian bazaars that the contractors to the Commissariat Department frequently employ an alloy instead of the latter material, to the great prejudice of the health of the troops. Now that attention has been called to the matter, it may be hoped that so close a scrutiny will in future be exercised over the manufacture and supply of the pots as to preclude further danger of lead-poisoning.

THE water supplied by the companies drawing their supplies from the Thames last month was greatly polluted with organic matter, and, according to Dr. Frankland, quite unfit for dietetic purposes even after efficient filtration. In some of the samples fungoid growths were found. The Lea water, although somewhat better than that derived from the Thames, was yet unfit for domestic use; while that delivered by the New River Company was slightly turbid, and contained moving organisms. The water supplied by the Kent Company, the Colne Valley Company, and the Tottenham Local Board was entirely unaffected by the long continued floods, and was "palatable, bright, and sparkling, and contained but mere traces of organic matter." It appears that the Colne Valley Company's water is softened by lime before delivery.

THE sanitary condition of Ilfracombe in 1876, as evidenced by a death-rate of 14 per 1000 annually, compares favourably with that of most health resorts in England. The annual report of the medical officer of health, Dr. Slade-King, while establishing the salubrity of the town, proves also that much remains to be done in the way of improvement. Thus, there are still required a properly situated public slaughter-house, additional ventilation for the common sewers, the completion of the alteration in the domestic distribution of water, and a strict enforcement of the bye-law which enacts that no new house shall be inhabited until certified by the authority to be not structurally or otherwise defective. Dr. Slade-King makes a suggestion in his report which we would gladly see adopted in all watering places—viz., that a yearly inspection of the hygienic state of every hotel and lodging-house in Ilfracombe should be made.

THE Yorkshire Association of Medical Officers of Health held a meeting at the Hull Town Hall lately. Mr. North, medical officer of health for York, occupied the chair, and there was a large number of members present. Dr. Goldie, of Leeds, read the second paper of a series on the subject of sanitation and its influence on public health, the title of the present article being "Climatic Diarrhœa and Typhoid Fever." Mr. Holden, medical officer of the Hull Board of Health, read a paper on the collection of night-soil, the observations being of local interest. Considerable discussion ensued on the reading of the papers, and the meeting terminated with a vote of thanks to the Mayor for having granted the use of the Town Hall. The next meeting of the Association will be held either at York or Halifax.

DR. STRANGE, medical officer of health for Worcester, reports that the health of the town in the last quarter was fairly good. Scarlet fever, which has prevailed in an epidemic form throughout the district for more than two years, is diminishing, but has not yet died out. The disease presents a mild type, contrasting favourably with a previous visitation, when hundreds of children were carried off by it.

PROFESSOR LISTER has been elected a Foreign Corresponding Member of the Société de Chirurgie de Paris. He has also been elected a Foreign Associate Fellow of the College of Physicians of Philadelphia. We congratulate Professor Lister on accumulating proofs of the esteem in which he and his labours are held by American and Continental judges.

DR. HERBERT DAVIES has been appointed medical officer to the Bank of England, in the room of the late Mr. Smee. The selection is in every way judicious.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

THE fifth meeting of the twenty-first session was held on Friday, Feb. 2nd, at the Royal Kent Dispensary, Greenwich-road, Dr. Thomas Creed, President, in the chair.—Dr. LEARED read a paper "On Flatulence: Causes, Effects, and Treatment." The author pointed out that as there is always gas in intestines, flatulency must be regarded relatively. There were three possible sources of gas—viz., 1, atmosphere; 2, blood; 3, fermentation of food. The oxygen is derived from swallowed air, and is subsidiary to digestion. He opposed the idea of some writers, that nitrogen, or any other gas, is evolved from the blood through the mucous membrane, and explained the sudden gaseous distension which occurs in hysteria by irregular contraction of parts of stomach and bowels from defective innervation. The chief cause of flatulency is undoubtedly fermentation, but Dr. Leared considered common fermentation rare. From hydro-

gen being largely evolved, he concluded there was a fermentation peculiar to the gastro-intestinal canal. From long experience and observation the author thought deficiency of gastric juice seldom was the cause of dyspepsia, seeing that in many cases of wasting diseases, and even in the last hours of life, there seemed sufficient for digestion. In these cases the fault appeared to lie in the impaired peristaltic action of the stomach; the food lying quiescent, and the gastric juice consequently unable to act on it in a reasonable time, fermentation and gaseous distension of the flabby organ resulted. Strychnia acts well in these cases. In many cases of flatulence the power of expelling gases is lost, owing to temporary paralysis from over-distension, putting great stress on muscular coats of stomach and intestines. Charcoal, as a gaseous absorbent, is valuable in these cases, but the dose, to be effective, must be large, and, perhaps, produce constipation, or possibly obstruction. The author recommended vegetable ivory charcoal in hermetically sealed gelatine capsules, which he some years ago introduced to the profession, and has found in practice to possess great gas-absorbing powers.

Correspondence.

"Audi alteram partem."

"ACTING AND CONSULTING SURGEONS."

To the Editor of THE LANCET.

SIR,—As one of the consulting surgeons of Peterborough Infirmary, allow me to thank you for the expression of your opinion in last week's issue that "a more agreeable division of labour and responsibility certainly seems not only reasonable but desirable;" and with your permission I will mention a few facts connected with the management of the infirmary.

Peterborough is a large working town, of about 20,000 inhabitants. It is a great railway centre (four lines meeting here), and there are railway factories and workshops employing altogether several thousand men. As might be imagined, serious accidents at the railway works and on the line are, by no means, uncommon; and, considering the size of the town, there is a large amount of surgery required.

There is only one hospital or like institution in the town, which receives patients also from a large surrounding district. The hospital, greatly to the detriment of all the medical practitioners of the town, except one, is a surgical monopoly. There is only one acting surgeon, who performs all the operations, and attends, as far as he is able, to all the surgical patients, leaving those whom he is unable to see to the care of the house-surgeon. Three surgeons are also appointed, who are nominally called "consulting surgeons," but whose sole office is to assist the acting surgeon in his operations by holding flaps, attending to instruments, and other minor details, but who have no share whatever in the performance of the operations, nor in the subsequent treatment of the patients. At the large out-patient department, where a considerable number of patients are seen twice a week, the acting surgeon and the house-surgeon attend to the patients between them, and the other surgeons connected with the infirmary have nothing whatever to do with these cases.

Naturally, this unfair state of things leads to great discontent amongst the profession, and a few years ago the older surgeons resigned in a body, being dissatisfied at the position they occupied.

The institution not only injures the private practice of the other practitioners, by admitting patients often very well able to pay for advice, but, by giving all the operating to one man, leads the public to suppose that he only can operate, and that the other surgeons are capable of simply acting as his assistants.

One of the consulting surgeons (Dr. Thomson) is surgeon to the Great Northern Railway, and has under his care several hundreds of railway workmen. Amongst these accidents are frequently happening, and it is a great injustice to him that, if one of these is removed to the infirmary to which he is attached, he is not allowed to have the care and management of the case.

The consulting surgeons, thus having the opportunity of performing operations taken almost entirely out of their hands, must resort to one of two expedients—viz., either to withdraw from purely surgical practice, and allow all important operations in the town and neighbourhood to be done by one surgeon, who, like themselves, is actively engaged in general private practice; or attend upon the practice of that surgeon as his assistants in order "to keep their hands in."

The injustice of this arrangement will at once be apparent to all; and, in my opinion, the thanks of the profession at Peterborough are due to you for drawing attention to a matter which, in your own words, "has been for some years a source of annoyance to the consulting surgeons and other practitioners in the city, and to some of the patients of the institution."

I am Sir, yours truly,

LEONARD CANE, M.D. & B.S. (Lond.)

Minster Precincts, Peterborough, Feb. 12th, 1877.

THE CHILDREN'S HOSPITAL, PENDLEBURY.

To the Editor of THE LANCET.

SIR,—I read Mr. Steinthal's letter with very great surprise. From the amount of feeling which he manifested on the occasion of my interview with him, during which our conversation had almost exclusive reference to the charge in question, it is, I am sure, quite unnecessary for him to refer to any minutes to refresh his memory on the subject.

On the day succeeding that on which the result of the October meeting of the committee became known to me I called upon Mr. Steinthal and had a private interview with him. I expressed my surprise at the action of the Board, and stated that I should not have accepted the appointment had I supposed it to be of so temporary a character, and that such action towards me might seriously affect my future professional career, and required grave justification, whereas I was ignorant of any grounds whatever for it. Mr. Steinthal then said that he did not wish to keep the matter a secret from me, and proceeded to give me the details of a case in which I had been accused by Dr. Borchardt of gross neglect in having allowed a child suffering from a painful disease to remain unrelieved for many hours ("writhing in agony for hours" were the words used). Mr. Steinthal related this with strong feeling, and concluded by saying, with marked emphasis, that the Board felt that anyone who could act in such a manner was quite unsuitable to occupy the office of assistant physician to the hospital. I then told him that the statement was entirely false, and that anyone who knew me personally could testify that I was the last person in the world to be guilty of cruelty. He answered that he had known Dr. Borchardt intimately for many years and would receive his statement in preference to mine. I said that I at least had a right to have a hearing before the Board, and that I should apply for one, and he acknowledged my right in this respect. I asked if any other charge had been made, and he answered "No."

It was quite evident to me, from this interview, that whatever representations may have since been made to him, Mr. Steinthal at that time identified the action of the Board solely with this charge, and the profession will be able to judge in what an unworthy and disingenuous manner (not to use stronger terms) it is now endeavoured, no doubt at whose instigation, to keep this entirely out of sight.

I will conclude by asking Mr. Steinthal to be good enough to answer two questions, without ambiguity or circumlocution.

(1) Was a case of the above description mentioned to him at all by Dr. Borchardt, either in or out of Committee?

(2) Did a conversation of the above nature, in its essential features, take place between him and myself?

I am, Sir, yours obediently,

CHARLES A. RAYNE, M.B. LOND.

Eccles, Feb. 13th, 1877.

To the Editor of THE LANCET.

SIR,—With reference to the letter of Mr. Steinthal in your issue of the 10th inst., I am able to state that Dr. Rayne narrated to me the conversation between himself

and Mr. Steinthal within a few days of its occurrence; that his version of it in your columns of the 3rd inst. is the same as what he then gave me, and that he also at the same time entered into particulars of the case in which he was said to have shown neglect.

As I consider Dr. Rayne to have been unfairly treated by the Committee of the Children's Hospital, I have pleasure in complying with his request to make this statement.

I am Sir, yours, &c.,

JAS. HARDIE, M.D.,

Manchester, Feb. 13, 1877. Assistant-Surgeon to the Royal Infirmary.

To the Editor of THE LANCET.

SIR,—In reference to the above subject, I beg to say that Dr. Rayne spoke to me of his interview with Mr. Steinthal on the evening of the day on which it occurred, telling me that he had learnt from that gentleman that Dr. Borchardt had accused him of neglecting a patient, and giving me the particulars. A few days later I saw Mr. Stienthal, and in conversation with him that statement was confirmed.

I am, Sir, yours truly,

Manchester, Feb. 12, 1877. ARCHD. WINTERBOTTOM.

A NEW EYE DOUCHE.

To the Editor of THE LANCET.

SIR,—Several patients to whom I have recommended the use of an eye-douche having complained to me of the unsatisfactory working of the instruments which they obtained, I applied some months ago to Messrs. Arnold and

NOTE.—The engraver has made a mistake in the diagram; the eye should have been represented closed instead of open.

Sons, of West Smithfield, to provide me with a better. They have made for me a new eye-douche acting upon the principle of their "simple enema" syringe, as shown in above engraving. It has worked extremely well in my hands at repeated trials, and it seems little likely to get out of order. I beg leave therefore to bring it before the notice of the profession, and to recommend it as a well-made and useful instrument.

Yours obediently,

PRIESTLEY SMITH,

Ophthalmic Surgeon to the Queen's Hospital, Birmingham.

DR. CAIRD, Principal of Glasgow University, has, says the *Scotsman*, received intimation of a munificent gift by a city engineer for the building of a common hall at the University. The estimates for the proposed addition to the college not having been adjusted, the exact amount of the donation has not been fixed, but it is believed that it will exceed £30,000.

Obituary.

SIR WILLIAM FERGUSSON, BART., F.R.S.

WILLIAM FERGUSSON was born at Preston-Pans in Scotland in 1808, his birthday being March 20th. He received the rudiments of his general education at Lochmaben, and subsequently was removed to the High School at Edinburgh, where he completed that education. At one time he was intended for the study of the law, but circumstances led him to the career of medicine and surgery, and he commenced his special studies in Edinburgh. He was at an early age fond of mechanics, and a circumstance connected with this peculiar knowledge, and which was narrated to the writer by the late Dr. Knox, materially influenced his future career. At this time Knox, who was, perhaps, the most celebrated teacher of anatomy in Europe, and who numbered young Fergusson among his pupils, was struck by the ability displayed in the construction of a piece of mechanism, and he determined to avail himself of the services of his clever pupil. In due course Fergusson became demonstrator to Knox. How beautifully Fergusson at that time could dissect is well seen by a specimen showing the arteries of the foot, and which we believe is now in the Edinburgh museum. Knox became very proud of his pupil, and infused into Fergusson the same ardour and energy which animated himself in the pursuit of anatomy, and marked out for him a bright career as a surgeon. Knox lived long enough to see these bright anticipations entirely fulfilled, and, although his own career terminated in gloom and disappointment, he always referred with pleasure to his former connexion with Fergusson, while the latter evinced towards his old teacher the utmost respect and gratitude, and was ever willing to assist him when, at the last, health and means were failing him. Fergusson now betook himself in reality to the study and practice of surgery. He obtained the Fellowship of the Edinburgh College of Surgeons, became attached to the dispensary, and subsequently was elected one of the surgeons to the Royal Infirmary, and there he soon showed the qualities he possessed, especially in reference to the operative department. Success was crowning his efforts in the northern capital when the turning point of his career occurred by his appointment to the Chair of Surgery in King's College and to the Surgeoncy of King's College Hospital, which events took place in 1840. The school of King's College was at that early period of its existence gaining a great reputation. Watson, Green, Robert Fergusson, Todd, and Partridge, in their several positions as teachers, had been the means of attracting large numbers of pupils to the medical school, and when the dismal old workhouse of St. Clement Danes was turned into a hospital, and Fergusson was appointed as its surgical head, it soon became apparent that great deeds would be accomplished there. Imbued with the spirit which had animated Liston and Syme in inaugurating quite a new era in surgery, he followed closely in their path, rendered himself conspicuous by the brilliant manner in which he performed the most difficult and unusual operations, and at the same time simplified his art by strongly leaning towards what he himself was pleased to call "conservative," but which perhaps might better be termed "preservative" surgery. At that period of time the operation of excision of the elbow-joint had hardly become generally established, notwithstanding the powerful example of Syme. Fergusson, however, was one of the first to practise it on a large scale, and did much towards showing the value and truth of the teaching and example of Syme. His operation, too, on the upper jaw caused at this time a great sensation, and the reception into surgery of this important

and valuable proceeding was in a measure due to his influence.

At this period his predecessor and great competitor, Liston, was at the very height of his reputation as an operating surgeon, and was astonishing the visitors who flocked to the North London Hospital by his brilliant feats. Notwithstanding this, however, Fergusson was slowly and surely attracting a great deal of attention by his own splendid abilities, and comparisons not unfavourable to himself were made as to the merits of the two men by those who had repeated opportunities of witnessing their exploits. Whilst boldness, skill, and rapidity of execution were the prominent characteristics of each in the exercise of their art, it appeared to some that Liston's boldness at times amounted to rashness; whilst Fergusson exhibited, with an equal amount of skill, greater caution and self-command. Liston was a more powerful man, and had an immense grasp of hand; thus he could execute certain movements connected with the larger and rougher operations with wonderful rapidity. In some operations—as, for instance, in lithotomy—they were each and equally distinguished. Each of them, using the simplest instruments, accomplished the entire proceeding with the most marvellous skill and with extraordinary rapidity.

The subject of this memoir, on first coming to London, like many other men who have afterwards become eminent, had a few years of weary and anxious waiting; but as the effect of his teaching and example at King's College and the hospital became recognised, patients began to resort to his house in Dover-street, and it soon became apparent that his success would be assured. Fortune marvellously favoured his efforts, for in a few short years many of the leading surgeons were called away, and last and not least both Liston and Aston Key were within a short time removed by death when they were in the zenith of their reputation and in the vigour of their manhood. From this period Fergusson's practice rapidly increased, and the whole of his time was taken up by his public and private duties. His reputation had been considerably enhanced by the publication of his "Practical Surgery," which has gone through five editions. He had at an early period paid much attention to the subject of stone in the bladder, and so far back as 1834 had introduced the rack and pinion lithotrite, a handy and simple instrument which he ever afterwards used. For a number of years he had a very large practice in the treatment of stone, and a considerable proportion of the cases which came to London for advice were submitted to him, either for lithotomy or lithotrity. In 1845 he brought before the Medico-Chirurgical Society his views on cleft palate, a deformity which had resisted the skill of all previous surgeons. Fergusson, however, had made a careful dissection of the parts in a subject who had cleft palate, and he discovered that the action of the levator palati muscles was such as chiefly to prevent union of the parts after they had been brought together. His operation, as is well known, consisted in the free division of these muscles preparatory to bringing the edges of the soft cleft together. The results were admirable, the operation became as successful as it was formerly the reverse; and if Fergusson had done nothing more for surgery he would have gained for himself a great name. This operation was always a favourite one with himself, and he was very proud of the results which occurred in his own hands and in those of his pupils. At first he only succeeded in closing the soft palate, but a few years ago he devised a method which, unbeknown to him, had been suggested by Dieffenbach as well, and which consisted in splitting the bony palate on each side of the cleft, and at the same time bringing the edges into contact by means of sutures passed through holes made in the edge of the cleft. He had the pleasure to see this operation succeed admirably in his own hands, and with his colleagues at the hospital. The very last communication he made public was a record of his latest experience on this subject.

In 1845 he revived the operation of excision of the head of the femur in an instance of incurable disease of the hip-joint. The operation was a complete success, and at the time attracted great attention. The question of the propriety of this operation was much discussed at that period, and considerable opposition was excited against it, mainly through the violent criticism of Mr. Syme, who denounced the operation in strong terms. However, it soon became established as a recognised and valuable proceeding; indeed, some enthusiastic surgeons have since advocated the proceeding in cases where Fergusson would not have sanctioned it.

In 1847 he performed the operation of excision of the entire scapula in a case of extensive disease of the bone, where previously amputation of the arm at the joint had been carried out. The patient made an excellent recovery, and this formidable proceeding was subsequently successfully accomplished by himself and some other surgeons. In one notable instance he removed the entire scapula with the arm in a young woman, under discouraging circumstances, with the most satisfactory results. The particulars both of the operation on the hip and that on the scapula were published in the Transactions of the Medico-Chirurgical Society.

As Fergusson increased in years and in experience, he became more and more imbued with his love of conservative surgery, and in 1850 he directed his attention to the surgery of the knee-joint. Dissatisfied with the practice of amputation of the thigh for incurable disease of this joint, he had long meditated the possibility of supplanting this great mutilation by some other method; and, encouraged by the celebrated case of Park of Liverpool, notwithstanding the unfavourable experiences of Crampton and Syme, he determined to make the attempt to save the limbs as well as the lives of patients suffering under disease of this great articulation. Accordingly he adopted the practice of excision of the joint in a case in which the operation was called for. Death rapidly followed this praiseworthy attempt. But Fergusson was not discouraged; he repeated the operation in another case with success, and then, so far as he was concerned, amputation for disease of the articulation alone became a thing of the past. It was a most difficult task, however, to introduce this operation into surgery, and the most violent opposition was excited against it. The success attending Fergusson's first efforts was by no means encouraging, and at one time it appeared as though the procedure would have to be abandoned; but, thanks to the energy of Jones of Jersey, Butcher of Dublin, the late Peter Price, and others of his own pupils, it soon became apparent that the operation was not only justifiable, but far preferable to amputation, as a highly useful limb could be retained at the same time that the whole of the diseased structures were removed. The operation finally became an established one in surgery, and nowadays it is hardly probable that any hospital surgeon would venture to amputate a thigh for disease of the knee where the ordinary conditions for excision of the joint were favourable. Fergusson, in his later years, often spoke with just pride of the success which attended his efforts and those of his followers in this matter. As an illustration of the strong feeling at first evinced against this operation, it may be stated that on one occasion, when Fergusson was about to perform excision of the knee-joint in the theatre of King's College Hospital, a gentleman, who at one time was asso-

ciated with him, addressed him in the theatre and protested against the operation; of course the impertinent interference was unheeded.

At this time Fergusson held the most prominent place in London as a surgeon in active practice, and maintained this position, making a very large income. He was consulted in nearly all the severe cases requiring surgical operation, and a vast number of the profession, both abroad and at home, sought his advice for their patients. An interesting and important event in connexion with his career occurred in 1861—viz., his admission into the Council of the College of Surgeons. He had only passed the College in 1840, on his arrival in London, and therefore, as regards seniority, was far below many men who had not his claim of high standing. His friends, however, thought it was high time that an attempt should be made to break through the rule which had hitherto obtained at these elections. There was great excitement preparatory to and in connexion with the election. The Council to a man determined to oppose Fergusson's election, and influences of various kinds were brought to bear against the efforts made for him; but all were useless. The fellows at large took the same view as the small and compact body of his staunch friends in London, and, to the great satisfaction of all right-thinking men, Fergusson gained a seat in the Council. In due course he reached the chair, and filled the office of president of the College with the utmost dignity and ability.

In the years 1864 and '65 he delivered a course of lectures in the theatre of the College of Surgeons on the Progress of Anatomy and Surgery during the present century, and in these admirable addresses he gave, as it were, an epitome of his own vast experience. These lectures were embodied in a separate volume, which will always be appreciated by practical surgeons.

In 1866 a baronetcy was conferred upon him on account of his eminent merits as a surgeon, and the entire profession looked upon this distinction as an honour to itself, as well as a most fitting reward to the man upon whom it was conferred. In 1867, after the death of Sir William Lawrence, Sir William Fergusson was made serjeant-surgeon to the Queen, and thus he had gained all the honours it is possible for a man in our profession to obtain. In 1870 he retired from the post of Professor of Surgery at King's College, but still retained the surgeoncy to the hospital with the chair of Clinical Surgery.

Up to this period Sir William Fergusson had enjoyed remarkably good health; his fine vigorous frame seemed capable of any exertion; he never tired of work, and after the day's professional engagements he entered into the pleasures of society with great zest. Most hospitable himself, he enjoyed the hospitality of his numerous friends. To music and the drama he was much attached. He was in the habit of spending the autumn for several weeks at his beautiful seat in Peeblesshire, and in the midst of his family and friends he most thoroughly enjoyed his annual holiday.

It was in the midst of this enjoyment at Spittlehaugh, in September, 1875, that the first shadows of the tomb fell upon Fergusson. At that time he wrote to an old and attached friend in London—to whom he had been in the habit of describing his country enjoyments for nearly thirty years—that he had not felt very well, and that the place did not seem to agree with him as formerly. He, however, returned to London in the middle of October, and was apparently as well and active as ever; but those who were mostly with him noticed that some of his energy had escaped him, and that he had become somewhat paler. During the intense cold of the severe winter he complained of bronchial irritation; this increased, and at the early part of the year symptoms of mischief about the chest and heart manifested themselves. His friend and colleague Dr. George Johnson was summoned to him and at once detected renal mischief. Notwithstanding the wishes of his numerous friends that he would abstain from working altogether and seek a more genial clime, he remained at his post; but the malady increased, and after a brief sojourn in the Isle of Wight and at Brighton he was compelled to take to his bed, and the symptoms of his disorder increased so alarmingly that his death was expected daily. He was conscious of his extreme danger, and calmly and resolutely awaited the approach of death, and made his dispositions accordingly. He, however, made a marvellous and unlooked-for rally, and was able to throw off nearly all the effects of the disease. By the summer he was so well as to be able to drive out, and at the end of July visited his Scottish home. Here he remained quietly with his family and a few intimate friends, and in September the writer of this notice visited him and found him in very fair health, and able to enjoy his beautiful home. He was at this time strongly urged to resort to Italy or the South of France for the winter, but steadily refused to listen to such counsel. He improved so much that he returned to London at the end of October, and although unable to attend his public duties, saw a few of his old patients. During the whole period of this improvement the albumen in the urine, although less, persisted in certain quantities, and in the middle of last month cough and dyspnœa recurred, he lost his appetite, and had restless nights. He took to his bed on the last day of January, dyspnœa and restlessness, with more or less delirium occurred, but he passed quietly away on the evening of February 10th.

In forming an estimate of Fergusson's character as a surgeon we must bear in mind the peculiar circumstances of his education as well as the period in which he was trained, and the influences which were brought to bear upon him. The fact of his having a great love for mechanics assisted him much in directing his mind especially to the more material part of surgery, as it were, and whilst he was fast acquiring his technical knowledge a new era in surgery, as we have before stated, was being inaugurated in the school to which he belonged, mainly by the brilliant talents of Liston and Syme. In the operative department more particularly was this the case. Liston especially, both whilst in Edinburgh and afterwards in London, astonished the world by his marvellous feats of surgery. Fergusson easily fell under this potent influence, and, attracted by the brilliant displays he witnessed, and filled with admiration for the man who could wield the knife with such masterly skill, he determined to follow in his steps, and, if possible, to equal him. Those who have had opportunities of seeing the two men engaged in the same work must confess that they were equally brilliant in that department of their art which they more especially affected, and that they displayed in an almost equal manner the same coolness and firmness of purpose, and that readiness of resource, without which the most profound knowledge and brilliant skill are like "sounding brass and tinkling cymbal." All those who saw much of Fergusson in the operating theatre, whilst admiring his wonderful skill, could not fail to recognise the qualities here mentioned; but his self-command and temper, unperturbed by any unforeseen circumstances, were peculiarly striking. If anything of this kind occurred, and others were alarmed and excited, his own coolness and self-possession would reduce everything to order. On one occasion, in the very early days of chloroform, he was about to perform a severe operation on the jaw of a lady. The friends were assembled in the next room, only divided by a thin partition. The patient was placed on the

operating table, and the assistants were at their posts while the chloroformist was at his work. Suddenly the patient became to all intents and purposes lifeless. The chloroformist and assistants were each and all equally alarmed and excited at this unlooked-for complication; but Fergusson, retaining his self-possession, calmly and coolly gave his orders, and in a few minutes the patient was restored. This was effected in such a quiet manner that the assembled family in the next apartment knew nothing whatever of the occurrence in question. On another occasion, whilst operating on a large deep-seated tumour in the neck, the external carotid artery or one of its large branches was severed and a tremendous flow of blood occurred. One of his assistants, with commendable alacrity, rushed forward and thrust his finger to the bottom of the wound. Fergusson, undismayed by this mishap, coolly said, "Jist get your finger out of the way, mon, and let's see what it is," cleverly secured the vessel, and completed the difficult dissection. In his operations he was remarkably neat, if it may so be termed, and he was most particular in all details; and although he had a peculiar and elegant style of his own, and was fond of displaying it as it should be displayed, he hated any unnecessary loss of time or attention to immaterial points. As one illustration of this it may be mentioned that a friend of his, on one occasion, undertook the ligature of a large artery in the presence of several others. The vessel was cut down upon and demonstrated in the most masterly manner, and with a pardonable pride, the operator called Sir William's attention to the denuded vessel. "Then," was the answer, "jist put a thread around it."

On two or three occasions he was placed in great difficulties, and very nearly failed in completing the operation he had undertaken. Once only was he very nearly committing the error of failing to reach the bladder in an operation for lithotomy in a child. This was many years ago, at King's College Hospital. The operation was most trying and arduous. It appeared as though Fergusson must fail; but he maintained his coolness and self-possession, and at last, to the great relief of himself and a crowd of on-lookers, he reached the bladder and extracted the stone.

On one occasion only was he ever known to fail entirely in completing an operation he had undertaken. This was at King's College Hospital, where he was endeavouring to divide an old, hard, and impermeable stricture at the point of the catheter—in fact, the old operation for perineal section. After a long and arduous attempt, he was fairly beaten, and was compelled to relinquish the attempt to carry the catheter into the patient's bladder.

In some of the greater operations of surgery Fergusson exhibited his powers more particularly. Thus, in the removal of the upper jaw, it was wonderful to witness the extraordinary skill which he displayed; and to him we are indebted for the simplicity of the modern operation. By making an incision through the upper lip into the nostril of the affected side, he was enabled to obtain room enough to apply his instruments in such a manner that the entire jaw could be removed without leaving any material deformity. His lithotomy was perfect, and the work of a few moments; whilst his operations on large and deep-seated tumours, and his excisions of the joints, especially of the knee, manifested his skill in a manner which excited the utmost admiration. Greatly as he excelled in these formidable procedures, however, he nowhere displayed more skill than when operating for hare-lip and cleft palate, to which deformities he had always paid especial attention; and he was more satisfied with his results in this particular department of surgery than any other.

Fergusson excelled chiefly in the operating theatre, there is no doubt, and his peculiar education and early surroundings, combined with his love for mechanics and great skill in the use of instruments, induced him to overrate the operative part of his art, and thus he somewhat failed as a teacher. His powers as a lecturer were not equal to those he displayed in the operating theatre—in other words, he was very reticent. Observant and full of knowledge himself, he forgot that students must be taught these qualities. Those who had much opportunity of watching him in his work in the wards could not fail to recognise this reticence as a defect in his character as a hospital surgeon and teacher, and there is no doubt that he would have added vastly to the benefits he conferred upon his profession if he had been more liberal in imparting to his pupils in his daily rounds the results of his great and varied experience. To some superficial observers it might appear that Fergusson did not shine so much in the consulting-room and by the bedside as in the operating theatre. His knowledge, however, of disease, his vast acquaintance with all the varieties and forms of morbid action with which the surgeon has to deal, were easily appreciated by those who had the opportunity of discussing grave and important surgical questions with him, and then it was seen what a flood of light he could throw upon some difficult and obscure case, and how seldom it was that he fell into error.

Of Sir William Fergusson's personal character it is unnecessary to say much. It, however, may be stated with truth that he lived and died beloved and lamented by all who came in contact with him. Beneath the somewhat reserved and undemonstrative outside there lay the warm and genial heart. Unselfish to a degree, considerate for others, he was the staunchest of friends, and most forgiving towards those who had done him wrong. He was the true type of a Christian gentleman, and thus, whilst we have the utmost appreciation of his splended surgical skill and attainments, we do not lose sight of his high moral worth and independence of mind. Added to these qualities were his unfailing courtesy and thoughtfulness for others, a temper scarcely ever disturbed, and a mind always calm and serene under the most trying circumstances.

On Wednesday evening the body of Sir William Fergusson was conveyed from London by the London and North-Western nine o'clock express train, for interment at West Linton, near Edinburgh. The funeral procession, consisting of a hearse drawn by four horses, two mourning coaches, and between thirty and forty of the private carriages of the leading London physicians, started from the late residence of the deceased in George-street, Hanover-square, about eight o'clock, and attracted much attention along the route to Euston-square. On the platform about 2000 persons assembled, including nearly all the leading men of the profession, together with a representative gathering of King's College men. As the train moved slowly away from the platform, all present, amid unbroken silence, uncovered their heads. The mourners who travelled by the train were Mr. James Fergusson, eldest son of the deceased, and successor to the baronetcy; the second son, Lieutenant Charles Fergusson, 72nd Highlanders; his old and intimate friend, Mr. William Snell, of the Army Medical Department; and Mr. Gadesden, the family solicitor.

WILLIAM BARWICK CLARKE, J.P., M.R.C.S.

WE regret to announce the death of Mr. William Barwick Clarke, at his residence, Barwickstead, Beckermont, Cumberland, on the 2nd January, at the age of 66. Mr. Clarke had been in delicate health for some time, but his death, of heart disease, was sudden and unexpected by his friends. Mr. Clarke was well known throughout the north of England, but more especially in the neighbourhood of Whitehaven, as one of the most eminent of the medical profession. Not only so, but he was deservedly popular amongst all classes for his energy and usefulness in connexion with the various

institutions, charitable and otherwise, and public bodies in West Cumberland. He was of a most genial disposition, and endeared himself in a remarkable degree to all who enjoyed the pleasure of his acquaintance.

Mr. Clarke commenced practice in Whitehaven about forty years ago, and shortly afterwards went into partnership with the late Dr. Burns, and subsequently with the late Dr. John Thompson, brother of the present Archbishop of York. About sixteen years ago he retired from the profession, and went to live upon his estate at Barwickstead, about seven miles from Whitehaven. Mr. Clarke held a number of public offices. He was a member of the old Whitehaven Board of Health, and of the present Board of Trustees. He took an active part in the introduction of the water-supply to the town, and in all sanitary measures which affected the district. He was a justice of the peace for the county of Cumberland, consulting surgeon to the Whitehaven and West Cumberland Infirmary, a director of the Whitehaven, Cleator, and Egremont Railway, a director of the Whitehaven Joint Stock Bank, a member of the Whitehaven Highway Board, and an *ex officio* member of the Whitehaven Board of Guardians. In politics Mr. Clarke was a Conservative, and on several occasions either proposed or seconded the nomination of Captain Lowther (the late Earl of Lonsdale) as one of the representatives of the Western Division of Cumberland.

PARLIAMENTARY INTELLIGENCE.

For the week ending February 15th.

HOUSE OF LORDS.

INTEMPERANCE.

On the motion of the Archbishop of Canterbury a Select Committee was appointed for the purpose of inquiring into the prevalence of habits of intemperance, and into the manner in which those habits have been affected by recent legislation and other causes.

HOUSE OF COMMONS.

MARINE HOSPITALS.

Captain PIM gave notice that he will bring in a Bill to improve the organisation of the marine hospital service.

STORAGE OF WATER.

Mr. CROSS, in reply to a question, stated he was not at present prepared to bring in a Bill to provide for the storage and conveyance of water, pursuant to the recommendation of the Rivers Pollution Commission.

LUNACY LAW.

On the motion of Mr. DILLWYN, it was agreed to appoint a Select Committee to inquire into the operation of the lunacy law, and whether any and what amendment thereof was expedient with regard to the violation of personal liberty.

VACCINE LYMPH.

Mr. SCLATER BOOTH, in reply to Sir Trevor Lawrence, said the subject of providing vaccine lymph from the calf was under the consideration of the Government. The practice which prevailed in Belgium and other countries had been investigated by the medical officer of the Local Government Board, and the result of his inquiries, which would be found in the twelfth Annual Report issued by the Privy Council, was not favourable to the adoption of the practice. The question is still receiving the attention of the Local Government Board.

SANITARY CONDITION OF THE WAR OFFICE.

Sir W. FRASER asked the First Commissioner of Works whether his attention had been called to the circumstances of the deaths of Lieutenant-General Sir James Lindsay, of General Egerton, of Colonel Middleton and Jennings, and to the mortality and sickness among the officers and civilians employed at the War Office and Horse Guards in Pall Mall; whether complaints had been made at various times relating to the supposed pestilential condition of those buildings; if so, whether he would lay copies of those complaints upon the table of the House; and whether he would lay upon the table of the House the report of the Royal Commission lately appointed by Her Majesty.

Mr. GERARD NOEL, who was received with cheers, said the attention of the Government had been called to the deaths of the officers referred to by name, and he was glad to be able to state that they were not in any way to be attributed to the unhealthy condition of the War Office. From a War Office return issued on the 19th of January last, it appeared that out of the total number of employés—namely, 630—there were nine absent owing to sickness. One of the illnesses was typhoid fever, and the others were bronchitis, congestion of the liver, stoppage of the bowels, rheumatism, gout, sprain, and a disease of the mouth. Complaints had been made as to the condition of the buildings, and whenever made they had been attended to with every desire to remedy the evil. It would not be usual to lay such complaints on the table of the House. A Committee—not a Royal Commission—had been appointed to inquire into the sanitary condition of the War Office, and their report was ready and would forthwith be printed. He could assure the House that every exertion would be made on the part of the War Office and the Office of Works to carry out stringently and effectually the recommendations of the Committee.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on Feb. 8th:—

Goodworth, Edward Portington, Hatfield, Doncaster.
Watson, James Henry, Benyon-road.
Hawkins, Cæsar Frederick, Bristol.

The following gentlemen also passed the Primary Professional Examination:—

Thomas Collier, Sheffield Medical School; William Todd, London Hospital; James Hacran, Charing-cross Hospital.

AT the annual meeting of the governors of the Durham County Hospital, the statement of accounts showed a balance to be due from the hospital to the treasurer of £348 16s. 4½d.

THE mortality in London last week was at the rate of 22 per 1000 annually. There were registered 1504 deaths, including 99 from small-pox, 21 from measles, 14 from scarlet fever, 7 from diphtheria, 44 from whooping-cough, 20 from different forms of fever, and 11 from diarrhœa.

WE have had forwarded to us from Messrs. Barraud and Jerrard of Gloucester-place, Portman-square, two excellent and life-like photographs of the late Sir William Fergusson. Admirers of this celebrated surgeon will do well to possess themselves of copies of these faithful portraitures.

AT the annual meeting of the Governors of the Bradford Infirmary and Dispensary, held on the 13th inst., the following resolution was carried unanimously:—"That this meeting desires to express its deep sense of the loss the Infirmary has sustained by the death of J. D. Lawrie, Esq., one of its honorary surgeons."

THE authorities of the Mater Misericordiæ Hospital have written to the guardians of the North Dublin Union, stating that increased accommodation will in future be afforded in the event of small-pox being epidemic in Dublin. The number of beds reserved at present for these cases is twenty—ten for males, and a similar number for females.

PRESENTATIONS.—On the 2nd inst., a large number of the local members of the British Medical Association dined together, with the view of presenting to Dr. de Bartolomé, President, a piece of plate, as a memento of the Sheffield meeting, and in recognition of his generous and able services on that occasion. The present consisted of a handsome silver-covered vase, which bears the following inscription: "Presented to M. Martin de Bartolomé, M.D., by the local members of the British Medical Association, in grateful recognition of his valuable services as president of annual meeting, held in Sheffield in August, 1876."—Dr. James MacLachlan, Assistant Medical Officer to the Glamorganshire Lunatic Asylum, Bridgend, on leaving to enter into private practice, has been presented with a silver inkstand and pencil-case, by the attendants and servants, a

beautifully illustrated copy of Shakespeare's works by Dr. Pringle, the Medical Superintendent, a fruit knife by Mrs. Pringle, and a copy of Farrar's Life of Christ by the chaplain.—Mr. E. E. Hooper, M.R.C.S., &c., having recently left Caterham Valley, his friends and patients presented him with a handsome tea and coffee service, accompanied by an address very beautifully engraved. The presentation was made at Mr. Martin's Estate Office, by the Rev. William Tebbs, of St. John's Church.—The Odd Fellows of the Manchester Unity, Lincoln, have presented their medical officer, Mr. A. L. Peacock, with a valuable gold watch and chain as a "token of esteem and appreciation of his services while acting as their medical officer."

BOOKS ETC. RECEIVED.

Dr. Gleitsmann on Western North Carolina as a Health Resort.
A. S. Campbell's Extra-Uterine Gestation.
Dr. Chaille on Consumption.
Dr. Day on Inebriety and its Cure.
Boston Medical and Surgical Journal.
Henry Trimen's Medicinal Plants. Part XVII.
Journal of Anatomy and Physiology. January.
Transactions of the Odontological Society of Great Britain. January.
Physiology and its Chemistry at Home and Abroad. By C. T. Kengzett and H. W. Hake.
Dr. Blake on the Use of the Membrana Tympani as a Phonautograph.
Dr. Squibb on the Administration of Phosphorus.
Mr. Hayter: Notes on the Colony of Victoria.
Tilbury Fox's Atlas of Skin Diseases. Part XVII.
Merlin Nostradamus: Age of Science.
Mr. Bennett: Text-book of Science.
Mr. Fowle: First Eton Greek Reader.
Dr. Wynter's Borderlands of Insanity.
Bourke on the Aryan Origin of the Gaelic Race and Language.
Mr. M. D. Wallace on Russia. Two vols.
German Clinical Lectures.
Hobson's Amateur Mechanic's Practical Handbook.
Modern Indian Leprosy.
The Richmond and Louisville Medical Journal.
Schweig on the Electric Bath.
Fowler on Analysis of the Urine.
American Journal of Microscopy. January.
The Whole Familiar Colloquies of Desiderius Erasmus, of Rotterdam. By N. Bailey.
Naftel's Elementary German Series: Accidence; Syntax.
Dr. Marcet on the Weather at Cannes during the Season 1875–76.
Cassell's Household Guide. Part I.

Medical Appointments.

APPLEBY, J. T., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Knutsford District and the Workhouse of the Altrincham Union, vice Purcell, resigned.

ASHDOWN, G., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon Extraordinary to the General Infirmary, Northampton, on resigning as Surgeon.

BENNETT, H., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Wigton Union Workhouse.

BEVAN, J. I., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Eastern District of the Gower Union, vice Young, resigned.

CHADWICK, G. R., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to the Morpeth Dispensary, vice Barrow, resigned.

CHAMPNEYS, F. H., M.A., M.B., M.R.C.P.L., has been appointed Medical Officer for Out-patients, Queen Charlotte's Lying-in Hospital, vice Williams, resigned.

DALE, G., M.B., C.M., has been appointed Medical Officer for the Kentchurch District and the Workhouse of the Dore Union, Herefordshire, vice Morris, resigned.

EMMERSON, W. L., M.D., L.R.C.S.E. & L.S.A., Public Analyst for the County of Leicester, has been appointed Analyst for the County of Northampton.

FISHER, S. H., L.R.C.P.L., M.R.C.S.E., has been appointed Resident Medical Officer to Queen Charlotte's Lying-in Hospital.

FOOTNER, J. B., L.R.C.P.Ed., M.R.C.S.E., has been appointed House-Surgeon and Secretary to the Tunbridge Wells Dispensary and Infirmary, vice Lammiman, resigned.

FYFFE, W. J., M.D., has been appointed a Consulting Physician to the Clifton Dispensary, vice Bush, deceased.

GREENE, R., Senior Assistant Medical Officer to the Sussex County Asylum, Haywards-heath, has been appointed Medical Superintendent of the East Riding Asylum at Beverley, vice Mercer, deceased.

HARPER, R. R., L.R.C.P.L., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Holbeach North District and the Workhouse of the Holbeach Union, vice R. Harper, L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., resigned.

LYON, J., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Audlem District of the Nantwich Union, vice Bellyse, deceased.

MCCALMAN, R. G., M.D., has been appointed Medical Officer and Public Vaccinator for the Ilsley District of the Wantage Union, vice Tyler, deceased.

MCCRAE, G. A., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Parish of Morven, Argyllshire, vice Coutts, resigned.

MACDOWELL, E. C., M.D., L.K.Q.C.P.I., has been appointed Visiting and Consulting Physician to the Sligo District Lunatic Asylum, vice Little, deceased.

O'CONNELL, D., L.R.C.P.Ed., L.R.C.S.I., has been appointed Medical Attendant to the Royal Irish Constabulary, Templemore, co. Tipperary, vice Forsayeth, deceased.

PARK, R., L.F.P.S.G., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Third and Fourth Districts of the City Parish, Glasgow, vice Buchanan, deceased.

RAWSON, E. A., M.B., C.M., has been appointed Medical Officer to the Carlow Union Workhouse, vice T. J. Rawson, M.D., resigned.

REID, A. W., A.M., M.B., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Arnold District of the Basford Union, Notts, vice Allen, resigned.

ROBERTSON, J., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical and Sanitary Officer for Rerrick, Kirkcudbrightshire.

SWETE, E. H. W., M.D., has been appointed Public Analyst for the City of Worcester.

WEBB, T. L., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Madeley No. 2 District of the Madeley Union, Salop, vice M. Webb, M.R.C.S.E., L.S.A.L., deceased.

YATES, Dr. G., has been appointed Medical Officer and Public Vaccinator for the Walthamstow District of the West Ham Union, vice Browne, resigned.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On the 7th inst., at Edinburgh, the wife of T. Anderson, M.B., of Shaws, Selkirkshire, of a daughter, prematurely.

ANTHONY.—On the 12th ult., at Agra, the wife of Mark E. Anthony, M.D., Surgeon Royal Artillery, of a daughter.

BRAMWELL.—On the 5th inst., at Tynemouth, the wife of J. W. Bramwell, M.B., of a daughter.

CARTER.—On the 2nd inst., at Clarence-terrace, Leamington, the wife of T. A. Carter, M.D., of a daughter.

HANNAN.—On the 5th inst., at Leeds, the wife of F. B. Hannan, L.K.Q.C.P.I., of a son.

HOFFMAN.—On the 7th inst., at Fulham, the wife of H. W. Hoffman, M.B., of a son.

KERR.—On the 7th inst., at Kinlough, Bundoran, the wife of E. W. Kerr, M.B., of a son.

ROBEY.—On the 3rd inst., at Lichfield Cottage, Hanley, the wife of S. H. Robey, M.R.C.S.E., of a daughter.

SHEWEN.—On the 6th inst., at Hogarth-road, Earl's Court, the wife of Alfred Shewen, M.D., of a daughter.

SPENCER.—On the 5th inst., at Lansdowne, Bath, the wife of F. H. Spencer, M.D., Army Medical Staff, of a daughter, prematurely.

VALENTINE.—On the 6th inst., at Girvan, Ayrshire, the wife of George Valentine, M.B., of a son.

WAGHORN.—On the 2nd inst., at Redhill, the wife of A. R. Waghorn, M.D., Surgeon-Major Bengal Army, retired, of a daughter.

WEST.—On the 14th inst., at Hagley-road, Edgbaston, Birmingham, the wife of J. F. West, F.R.C.S., of a daughter.

MARRIAGES.

AITKENS—GILL.—On the 13th inst., at Christ Church, Tunbridge Wells, by the Rev. L. C. Walford, assisted by the father of the bridegroom, Louis Edwardes Aitkens, Surgeon, of Stonedene, Hawkhurst, Kent, third son of the Vicar of Aylsham, to Lizzie, widow of the late Robert Newton Gill, Solicitor, of Knaresborough, Yorkshire.

EVATT—KERR.—On the 15th ult., at Mozufferpore, Bengal, E.I., by the Rev. John Richardson, Chaplain, George J. H. Evatt, M.D., Army Medical Department, eldest son of the late Captain George Evatt, 70th Regiment, to Sophie Mary Frances, daughter of W. W. Raleigh Kerr, Esq., of Kensington, Bath, and granddaughter of the late Lord Robert Kerr.

DEATHS.

CUNLIFFE.—On the 7th ult., Robert Anlezark Cunliffe, M.R.C.S.E., of Preston, aged 48.

DOW.—On the 5th inst., at Tarbert, Hugh Dow, M.D., late of Kilbirnie.

FORD.—On the 19th July, at Bay of Islands, Russell, New Zealand, Samuel Hayward Ford, M.R.C.S.E., M. & L.S.A.L., aged 65.

GORDON.—On the 15th November, at Melbourne, William Leslie Gordon, M.D., Medical Superintendent of the Lunatic Asylum, Ararat, Victoria.

HOLT.—On the 6th inst., at Sauchiehall-street, Glasgow, John Holt, L.F.P.S.G.

JOHNSTON.—On the 12th inst., at Tow Law, near Darlington, after a short illness, Christina Landale, wife of George Johnston, M.D.

LAWRANCE.—On the 7th inst., at Johnstone-street, Bath, Joseph Lawrance, M.R.C.S.E., late Superintending Surgeon, Madras Army.

MCCURDY.—On the 31st ult., at Alverstoke, Benjamin McCurdy, Staff-Surgeon R.N., aged 37.

MARSH.—At Kempsey, Henry Brunning Marsh, L.R.C.P.Ed., of Upton-on-Severn, aged 60.

METCALFE.—On the 4th inst., Robert Ives Metcalfe, M.R.C.S.E., of Tydd St. Mary, Lincolnshire, aged 84.

POWER.—On the 7th inst., at Ladywell, Lewisham, William Henry Power, M.D., aged 65.

REYNOLDS.—On the 9th inst., at Beech-lawn, Mossley-hill, Liverpool, Dr. William Reynolds, aged 73.

ROBERTS.—On the 7th inst., Stewart Blacker Roberts, M.D., of South Norwood.

ROBINS.—On the 28th ult., at Croydon, Richard Lloyd Robins, L.S.A.L., aged 57.

SHOLL.—On the 29th November, at Walleroo, South Australia, William Horatio Sholl, M.R.C.S.E., aged 68.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

Notes, Short Comments, and Answers to Correspondents.

THE HIGH RATE OF MORTALITY IN MADRID.

THE *Journal d'Hygiène*, the only French periodical, we believe, devoted exclusively to sanitary matters, is rendering good service by comparing the condition of all the great towns of Europe with special reference to the recent epidemic of enteric fever in Paris. Monsieur le Docteur Pietra Santa, the enterprising editor of this paper, has succeeded already in obtaining special statistics on the general mortality and the proportion of deaths from enteric fever chronicled in some of the principal centres of Germany, Russia, Switzerland, Italy, Spain, &c. Of all these reports, the most lamentable, in its tone and the vague character of the details given, is that which comes from Madrid. The civil register is so badly kept, the various forms of disease being confused one with another, that no precise information can be obtained. It appears, however, that, according to the statistics of 1873, the population of Madrid amounted to 360,000 souls, and the mortality to 11,454; but by the number of deaths in 1875 it rose to 15,281. The death-rate in the ten different districts of Madrid varied from 40 to 64 per 1000. Taken altogether, and if we add 2 per 1000 as the contingent of the military hospitals, and 2 per 1000 as representing the mortality of infants born in Madrid and farmed out at a little distance from the town, we have a total death-rate of 46 per 1000. The municipality, or ayuntamiento, seem to attribute this death-rate, which exceeds the number of births, to the unwholesome character of the food and wine consumed; but out of 3731 classified deaths, they have only been able to trace 167 to gastric and enteric disorders. The proverbial pride of the Spanish race would at least prove of some use if the denunciation of such a disgraceful state of affairs would awaken that sense of shame which inspires earnest efforts at reform.

Mr. Jas. Mitchell.—Sulphate of iron (commercial greenstone) is considered about the best disinfectant for the purpose named, and is not costly.

A SAMPLE OF ANTI-VACCINATION EVIDENCE.

To the Editor of THE LANCET.

SIR,—A case having occurred in this district which has given rise to comments unfavourable to the Compulsory Vaccination Acts, I should feel obliged if you would publish it, as perhaps it may in other and interested hands be represented in worse colours.

F. G——, aged seven months last birthday, was brought to my surgery by his mother on the evening of Jan. 24th last, with the following history:—When born he was apparently healthy, and continued so for two months, when he developed symptoms of "consumption of the bowels," and for which he was under treatment at St. Thomas's Hospital up to the time of vaccination, which was six weeks prior to coming under my notice. According to the mother's account—and in making this statement she was quite positive,—the infant was getting better and gaining flesh when taken to a public vaccination station, in consequence of several notices and warning from the authorities. The operation was performed in three places, all of which subsequently ran into one. When I saw him he was wasted to an extreme degree, pinched in face, suffering from offensive diarrhœa and obstinate vomiting, and the enlarged mesenteric glands could be felt through the abdominal parietes. He had also on the left arm an ulcer partially healed, about an inch long by one quarter broad, discharging a thin watery secretion from its centre, not inflamed, but the healed parts were hard, and bound down by adhesions to the humerus. The right hand and forearm were puffed and swollen, hot, and apparently tender to the touch. I may say that the child had been taken to the vaccination station on several subsequent occasions, when cold-water applications had been prescribed. This state of things remained until Sunday evening last, when the poor little fellow died, the cause of death as certified by me being "Tabes mesenterica, five months; exhaustion." All my endeavours to persuade the parents that the death was as certified have been unavailing; for I was met with the reply, "When our little girl suffered from the same disease she was successfully treated at St. Thomas's Hospital, but then *she was not vaccinated.*"

Trusting that this case may be of interest to the profession,

I remain yours truly,

Old Kent-road, Feb. 9th, 1877. WM. BULL, F.R.C.S.

WHITE CARBOLIC SOAP.

WE have received from Mr. Jones, Chemist, of 23, Bayswater-terrace, W., samples of his white carbolic soap. The soap, in addition to carbolic acid, contains oxide of zinc and 20 per cent. of glycerine—ingredients that are eminently adapted to form a soap which shall possess certain cleansing and emollient qualities,—and is likely to be useful in slight skin affections.

TREATMENT OF GOUT BY PRESSURE.

To the Editor of THE LANCET.

SIR,—In last week's LANCET I find a letter from Dr. Bowles, of Folkestone, respecting the pressure treatment of gout and rheumatism. I beg to inform both him and Mr. Wynter, of Wandsworth, that the same treatment was published in 1867 by Mr. Renshaw, the well-known medical publisher of the Strand, and called "A New and Successful Method of Treating Rheumatism and Gout, and Restoring Lost Muscular Power," and the author is,

Yours very truly,

Balham, S.W., Feb. 1877. ALFRED KING, M.B., M.D.

P.S.—The treatise commences with the following words:—"The general feeling that prevails respecting rheumatism and gout being incurable has superseded many endeavours to find out a remedy, yet these diseases may be cured, and indeed prevented, as well as other maladies. Nature herself points out to us the mode; for when seized with violent pain or cramp, we instinctively apply our hand to the part, and compress it."

CHARBON.

A CASE is related in the *Veterinarian* for February, by Mr. J. H. Peard, M.R.C.V.S., of Cork, of a man who contracted charbon from some cattle affected with the malady which he had tended. The disease commenced with the appearance of a yellow spot on his arm, surrounded by a dark-red line, together with a lump in the axilla. The next day he became unconscious and raving. The prognosis given by the doctors called in was very grave; but recovery took place in a few days after the administration of "pot. chlor., thirty grains of which were given at once, and half doses every four hours, and then increased to twenty"—a remedy which had been successfully employed in the case of the affected cattle to which it had been given.

Mr. Worthington.—We much regret that the pressure on our columns compels us to defer the insertion of our correspondent's communication.

THE following lines were written impromptu shortly before the death of—

SIR WILLIAM FERGUSSON.

Calmly thou liest on thy suffering bed!
Thy quicken'd pulses throb; life ebbs and flows;
Yet, well thou knowest, all must soon be still!
And thou must stand unshackled by life's coil,
Of cares, or joys, or thoughts of things on earth,
Before God's judgment throne.
Few minds have fathomed more the springs of life,
The causes of our sufferings and their cure,
The secrets of existence in our frames,
How fearfully and wondrously we're made!
Thy subtle fingers oft have found disease
Lurking, yet unsuspected, in its lair,
And crushed it out, restoring health and ease;
Yet now thine own thou can't not mitigate!
No more avails thy skill to stem the tide
Now bearing thee beyond this mortal life!
Ah! strange dread paradox, it is too true,
Man cannot save himself in earth or Heaven!
Many are those thou'st succoured in thy day,
Relieved from pain, spared poverty's sharp sting,
By giving health: thy bounty owned of God,
And His rich blessing prospering thy work.
Oh! may deep prayers and blessings rest on thee
In these thine hours of need and suffering!
And supplications earnest oft ascend
To Him, the Maker of the universe
(Who gavest thee thy kindness and thy skill),
That He will grant thee rest and ease from pain
Now in thy sickness, and hereafter peace
In His all-glorious kingdom.

W.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—There is one result in connexion with the prohibition of exchanges in the Army Medical Department that I omitted to mention in the letter which I wrote to you, and which you kindly published in your issue of Jan. 27th, and that is that their almost absolute prohibition affects the security of the entire pension, of any pension, or of even a bonus. For instance, under the old rules, if a man's health broke down (say) in India, so that he could not go out again, he could probably exchange when ordered there, put in the remainder of his time at home, and so secure his pension. Now, if an officer's health breaks down, so that he ought not to go out again, even supposing him to be well enough to serve at home, at (say) ten, twelve, or fourteen years' service, and he is ordered out again to India, it is notorious that he is almost certain to be refused leave to exchange, and the result is that he must either go out to a country where he cannot serve with efficiency, or be brought before a Medical Board, and probably placed on half-pay, *none of which counts as service*; and unless he agrees to go out to India, where he ought not to go, he very likely loses all right to permanent pension, and this is the reward for having lost his health in the service of his country. If a medical officer's health breaks down at a period of his service which enables him to put in twenty years before ordered out again, but not twenty-five, the result probably is that he is put on half-pay at (say) twenty-three years' service, and loses the higher pension to which he would have been entitled had he served twenty-five years on full pay. Should one of these young gentlemen (if I may so call them) who entered for a £1000 bonus at the end of ten years, break down in India after (say) two years there, and three years of service, so that while fit to serve at home, he never ought to go to India again, he will probably be refused leave to exchange, and have the alternative of going out there to die perhaps, or of being turned out of the service altogether, without any compensation for his more or less ruined constitution. Considering that men in broken health, brought on in and by the service, have most need of pensions and bonuses, the hardship of the rule must be apparent to all.

Yours faithfully,

February, 1877. M.D.

To the Editor of THE LANCET.

SIR,—In my letter of last week I alluded to the subject of exchanges mentioned in this week's issue by your correspondent, "M.D." I am not aware that exchanges are entirely prohibited. It would unquestionably be a boon to the department if they were more freely permitted; yet the wisdom of preventing frequent and indiscriminate exchanges is, I think, evident. Promotion would be much retarded if medical officers were allowed repeatedly to exchange and remain at home when they came to the top of the roster for foreign service. Some system by which no two consecutive exchanges were permitted might meet the difficulty.

Yours faithfully,

Jan. 31st, 1877. FAIR PLAY.

ST. GEORGE'S HOSPITAL.

Law enacted Feb. 9th, 1877.

THE Physicians, the Surgeons, the Assistant-Physicians, the Assistant-Surgeons, the Visiting Apothecaries, the Chaplain, the Superintendent and Secretary, the Solicitor, and the Surveyor shall be elected by a Committee consisting of the Vice-Presidents, Trustees, Treasurers, Consulting Physicians, Consulting Surgeons, the four Physicians, the four Surgeons, and twenty-one Governors not being officers of the hospital, elected by ballot annually at the Quarterly Court in May, notification of such ballot being made in the circular calling the Court. No appointment shall be made by the said Committee within fifteen days of any vacancy being declared in the daily papers; and the Committee shall appoint any such officer within thirty days of such declaration, or shall report to the Weekly Board their reason for not making an appointment within that time. No member of the Committee shall be eligible to be appointed to any office by the Committee. When a vacancy among the elected members shall occur, either by death, resignation, or otherwise, a ballot shall take place at the next Quarterly Court to fill such vacancy. Candidates canvassing, directly or indirectly, any member of the Committee, shall be deemed ineligible for election.

A CASE IN THE BELLEVUE HOSPITAL, NEW YORK.

To the Editor of THE LANCET.

SIR,—The following case seems to me sufficiently important for publication.

Thomas G——, aged forty-six, admitted to hospital on October 10th, 1876. Fifteen months before admission the patient became suddenly unconscious after coming out of a fight with some companions. On regaining consciousness he found that his left leg and right arm were paralysed. This paralysis passed off in three weeks. The patient said that last spring his feet became swollen. About six weeks before admission he lost consciousness while selling some goods, and remained unconscious for several hours. No paralysis resulted; but his memory was impaired, and his emotions could be too easily excited. From that time up to the date of admission he thought he had improved somewhat. The patient on admission was quite rational, and able to give the above history of himself. The peculiarity of the paralysis was mentioned voluntarily, not suggested by leading questions. At times he was somewhat demented, especially at night. Sometimes he spoke of the wandering of his mind. No delusions; slight œdema of feet; urine abundant in quantity, specific gravity 1013, acid, albuminous. The ophthalmoscope showed that the optic discs were not well defined, shading off gradually into the retinæ around their circumference. Here and there over both retinæ were small, irregular, pigment masses, appearing slightly out of focus when the instrument was adjusted for the disc, near each one of which was an irregular spot, whiter than the surrounding retina. No impairment of vision complained of. The patient remained in the condition above noted till November 12th. On that day, while sitting on a bench in the grounds adjacent to the hospital, he was observed to fall forwards. He rose, however, and walked back to the ward, up a flight of stairs. Shortly after arriving there he became insensible. On examination it was found impossible to rouse him. He was restless, moving the left leg and arm freely. The limbs on the right side remained motionless. On pricking the paralysed members, the patient made voluntary efforts with the unaffected side to get away from the source of irritation. Partial paralysis of right side of face noted; reflex action in leg good. Patient died comatose about thirty-six hours after attack.

Autopsy.—A large mass, formed of broken-down brain-substance, recent clot, and fluid blood, was found occupying the site of the greater part of the left corpus striatum and the white matter adjacent. Optic thalamus of that side little if at all implicated. On the side of the clot the membranes were abnormally dry and convolutions flattened. In the optic thalami and right corpus striatum were found four or five small hæmorrhages, about the size of peas, some old, some recent. At about the centre of the pons Varolii was an old clot, found by aid of microscope to contain numerous hæmatoidine crystals. Vessels at base of brain atheromatous. Eyes: Several rust-coloured spots, the size of very small pin's-heads, observed in retinæ of both eyes. The microscope disclosed in them blood-pigment and crystals. Lungs: Nothing noteworthy. Heart much hypertrophied; no valvular lesions. Liver and spleen apparently normal. Both kidneys were contracted, and granular on surface: the left much smaller than the right; both very fatty. Stomach and intestines not examined.

This case is of peculiar interest as giving an instance of paralysis occurring on two occasions in strict accordance with the generally received theory of direct loss of function occasioned by the lesion, if we accept the patient's history as correct. It would seem reasonable to accept as correct a statement of so prominent an event in a man's life as the complete loss of power in two limbs. Dr. Brown-Séquard, if my memory serves me, rejects past histories given by patients as being too liable to error. This case, if tabulated according to his method, would militate against the generally received theory. Taking it with its history, it is a very strong case the other way. Unfortunately I did not study certain details as carefully as I should. The case at least serves to show very strikingly the paramount importance of a reasonably complete history in all cases, and the worthlessness of those cases which, notwithstanding carefully recorded post-mortem examinations, are in this respect deficient.—Very truly yours,

RICHARD W. SANTVOORD, M.D.,
House-Physician, First Medical Division,
New York, Dec. 15th, 1876. Bellevue Hospital, New York.

THE CRYSTAL PALACE.

FACILITIES for public recreation in pure air and with pleasant surroundings are so few that those which exist should be carefully conserved. The Crystal Palace has clearly made out a strong and clear claim to life and opportunity for the good of the people. We cordially support the civic movement to rescue the Palace from its difficulties. The situation and capacities of the institution—for such we must call it—are admirable, and the place must be preserved.

THE TURKISH MEDICAL SERVICE.

WE were recently enabled, through the courtesy of a correspondent, to afford our readers a sketch of the organisation of the Russian sanitary service and hospital organisation. As regards Turkey, however, our information is much less complete. The sanitary department of Turkey was reorganised in 1870; but that such reorganisation extended beyond the paper upon which it was embodied is more than doubtful. It is almost certain that, in the event of war, the Turkish army would be badly off as regards its medical, transport, and field service arrangements, owing to the indifferent organisation, the insufficient supply of stores and transport, and the inadequate number of medical officers. There is a medical University at Constantinople, and the students, after obtaining their degree, go through a two years' course at one of the hospitals as assistants. The military hospitals at Constantinople, of which there are several, are said to be very good, at any rate as far as the size and character of the buildings are concerned; and the same may be said of the hospitals in the larger garrison towns. The military surgeons of superior rank are generally foreigners. There is a surgeon and an apothecary to every regiment; the hospital subordinates and sick attendants are drawn from the ranks or civilian life. The proportion of medical officers to patients in the permanent hospitals is rather above two per cent. The Turkish army already in the field has a good deal of sickness, owing to the exposure of the men to wet and cold, against the effects of which they are insufficiently protected by their indifferent clothing, and it is stated that already scurvy is very prevalent among them.

THE TREATMENT OF BOILS ETC.

To the Editor of THE LANCET.

SIR,—Since seeing Dr. Ringer's remarks upon the action of the sulphides over the suppurative process, I have lost no opportunity during the last year or two of putting these remedies through a thorough testing. I have used them in cases of boils, abscesses, scrofulous glands, quinsy, strumous onychia, &c. &c.; in fact, in all cases in which suppuration has either taken place or is likely to occur, and I can say justly that the result has been in every way most satisfactory. The following case of successful treatment of a large boil in the neck is very interesting, and serves to show the great value of these remedies.

J. S——, a strong young man, of rather plethoric habit, aged about twenty-one, called on me on the 16th of October last year, with a large, hard, brawny boil in the neck (almost large enough to call a carbuncle), which from its painfulness and size compelled him to hold his head completely on one side. He had been round to a neighbouring chemist, who had asked him to let him lance it. He did not, however, comply, but came on to consult me. I found no signs of fluctuation, but at the same time quite anticipated that in a day or two it would either point spontaneously or else be ripe for lancing, and so, in the hope only of lessening the area of suppuration, I put him at once under the action of the sulphide. I gave him a box of pills, each one-eighth of a grain of the sulphide of calcium, and told him to take one every three or four hours. I also gave him a tonic mixture of bark and nitro-muriatic acid. He came again on the 19th, and on examining the boil I found that the area of inflammation was less, but still there was no fluctuation, and so I now began to think that it might go away altogether. I therefore told him for the future to take one pill every two hours, and to continue the mixture. In two days he came again. There was yet further progress towards resolution; still the boil was large, and I thought that soon it must break, although I hoped it would not. He seemed to be a little impatient that it had not broken, and asked me to let him poultice it. I explained to him that I hoped it would go away without breaking; but I yielded to his wish, and told him to place a belladonna plaster over it, with a hole in the middle (as Dr. Ringer recommends), and a poultice over that. He did this for one night only, and did not feel inclined to repeat it, and so we went on as before, and from day to day the boil gradually but certainly diminished in size until it no longer troubled him much, and on the 29th he came to see me for the last time, being nearly well. I saw him again a few weeks afterwards, and every trace of the large boil was gone, without discharging one drop of pus. He expressed himself exceedingly pleased with the result, and was very glad he "did not let the chemist lance it."

This case serves to illustrate in a remarkable manner the action of this drug. I have used the sulphide latterly in all similar cases with the most pleasing results, and have always found the patients spontaneously enthusiastic over the treatment. I could multiply evidence if space allowed. I am quite sure that anyone who gives the sulphides a fair trial will never like to be without them in treating any case in which suppuration takes place or is threatening. Yours truly,

Brighton, February, 1877. J. M. E. SCATLIFF, M.D.

Mr. W. A. Frost.—Rowell's Outline Diagram Forms for Clinical Case-books, published by Smith, Elder, and Co.

L.M. T.C.D.—Yes.

SPASMODIC ASTHMA.

To the Editor of THE LANCET.

SIR,—I ask the advice of my medical brethren as to the following case, which I give in my patient's own words:—

"Having suffered much from repeated attacks of spasmodic asthma, and having tried the Riviera, Egypt, most parts of Italy, and all places generally recommended for such cases, with little success, I went to the diamond fields of South Africa, where I enjoyed perfect health. Both Natal and the Cape Colony failed to do me good, nor was it until I breathed the air of the Orange free State that I became perfectly well."

This was written some time since, and at the present time the state of perfect health no longer exists. My patient is now anxious to try "fresh fields and pastures new" in search of relief or health, and I ask for information as to where he shall go. There is a report that some places in Hungary and Bavaria are recommended. Can any of your travelled readers confirm this report, or tell me of any place in Europe where my patient is likely to find that peculiar atmospheric influence which was of so much benefit in the latitude of the Vaal River? Your obedient servant,

Winslow, Bucks, Feb. 10th, 1877. THOMAS NEWHAM, M.D.

"GENTLE SERVING MEN AND WOMEN."

THE glorification of work is not only carried to the verge of the ludicrous, but diverted from a channel of usefulness when it is proposed that persons of gentle birth, and educated, shall engage in menial toil. The argument that in old times men and women of every grade acted as attendants on their equals in social position is fallacious, and implies ignorance of history. When the sons and daughters of gentle families entered the service of the heads of households in their own rank, they did not take the place of mere hireling servitors, and the duties that devolved upon them were of a class entrusted only to persons of position and worthy of confidence. It is impossible to restore the social conditions in which service of this nature was possible. The practical purpose of a movement to open new opportunities of usefulness and means of self-support for poor gentlemen and gentlewomen is not aided, but hampered, by wild talk of the class to which we allude. Men and women with refined tastes and sensitive feelings can never satisfactorily fulfil the functions of domestic servants. In place of setting a possible mathematician to tail the plough, it would be policy to open up new fields for enterprise in his legitimate province.

Bengal.—We believe not.

India.—It will be noticed on the next occasion that reference is made to the subject.

POISONING BY COLCHICUM WINE.

To the Editor of THE LANCET.

SIR,—Last week I was called to see a female over sixty years of age, who about eight o'clock in the morning had taken ten drachms of colchicum wine in place of a black draught, which had been sent to her. It was nearly twelve hours after the poison was taken that I saw the patient. She then had a vacant stare, but replied slowly to questions. The pupils were to a certain extent contracted; she had had violent griping pains, and said that she felt exactly as if she had a lump of ice in her inside; the hands and feet were blue and icy cold, and she had made several ineffectual attempts to vomit; the pulse was just perceptible, and the heart's action feeble in the extreme. I had very hot bottles applied to her feet, and flannels wrung out of hot water applied to her body, and directed very strong coffee with a tablespoonful of brandy to be given every two hours. I was obliged to leave after seeing these directions commenced, and on returning an hour and a half afterwards I was glad to find reaction thoroughly established, and a genial warmth throughout the body; the pulse had also quite recovered its tone. She was watched all night, and in the morning the only remaining effect of the poison was a severe headache and a feeling of nausea. Considering how a very little larger dose than that which was taken has been more than once fatal, the patient had a good recovery.

Yours faithfully,

Marlborough College, Feb. 13th, 1877. WALTER FERGUS, M.D.

M. O. H.—We are not aware of any provision of the law which meets the disgusting practice to which our correspondent refers. Mr. Lumley, Q.C., in his edition of the Public Health Act, 1875, specially notes in respect of section 116, that it "does not apply to the food *for* animals." The question is one which, in view of further amendment of the public health law, it might be well to bring under the consideration of the Society of Medical Officers of Health, and we would suggest that our correspondent should communicate with the Secretaries (Dr. Northcote Vinen, St. John's, Southwark, and Dr. Corfield, 10, Bolton-row, Mayfair), or one of them, on the subject.

DIAGNOSIS WANTED.

To the Editor of THE LANCET.

SIR,—I have a patient, a gentleman, aged thirty-six, very stout and plethoric, a free liver, whose face is covered with the usual papular eruption and blotches found in such subjects, and whose hair has got considerably thinned by a follicular affection. The skin of the scalp is also more or less covered with a scurfy crust. Every finger and each thumb nail has now got affected with a horny, calcareous-looking growth, which appears to spring from the ungual phalanges, and pushes the nail itself considerably up from its bed, on two or three fingers to the extent of a quarter of an inch, and produces an angry-looking, inflammatory condition of the skin around each nail. On picking at these growths, which the patient frequently does, they readily bleed, and frequently a little pus exudes. I should feel obliged if some brother practitioner would give me his opinion of the case, and the best way to treat it. Is it favus? I have given rhubarb, soda, and mercury-with-chalk, and also vegetable tonics, also cod-liver oil and iodide of potassium, with no effect. The gentleman has been married ten years, and certainly had no syphilis during that time, and I believe never had. I may mention that the condition of the nails gives a very repulsive look to the hands, and it is very expedient that I should get my patient improved, if not cured, and therefore should greatly welcome the information to obtain that end.

Faithfully yours,

February, 1877. ONYCHIA.

MIDWIFERY FEES.

To the Editor of THE LANCET.

SIR,—In your last issue I read a letter from Mr. Langston, in which he related a case brought by him into a County Court, and the very rude (I might say impertinent) manner in which he was treated by the Judge.

I fear, Sir, that many of us could relate similar cases of County Court and magistrates' politeness. In fact, it is very remarkable the want of consideration frequently shown by gentlemen in these positions to members of our profession. Too often they seem to seize with delight the opportunity for taunting and humbling medical men. They forget that their position does not take from them the responsibility of acting and conducting themselves as courteous gentlemen. I think your correspondent was treated very hardly, and that his case is one that might be well carried to a higher Court. In similar cases many of our profession could not afford to do this. There is, however, a Medical Defence Association, which might, I think, take up such as this, provided the aggrieved party was a member; and if it did so, I am sure there are many more who would enrol themselves in the Association.

Yours obediently,

February, 1877. M.D.

F. F. P. S.—1. Lord Coleridge, the present Chief Justice of the Common Pleas, when at the bar, stated as his opinion that the power of directing the Registrar to erase from the Register the name of a medical practitioner who should be judged to have been guilty of infamous conduct in any professional respect under sec. 29 of the Medical Act, 1858, could only be exercised by the General Medical Council itself, and could not be delegated.—2. This power should doubtless be used with great caution and after careful investigation.—3. The Solicitor to the Medical Council is Mr. Frederic Ouvry, of 66, Lincoln's-inn-fields.

Mr. H. Norris.—1. We much regret that we cannot find the necessary space. 2. We do not know of anyone.

Enquirens.—Half a guinea each.

A Subscriber wishes to know where he can obtain a copy of Jenner's work on Vaccination.

VACCINE LYMPH.

To the Editor of THE LANCET.

SIR,—Will you allow me to back Dr. Richards' letter in your last issue on the above subject?

I was obliged to call at the Local Government Board Office, not having received a reply to a written order for lymph. On proving to the satisfaction of the gentleman in the Office that I was no impostor, but a real and registered medical practitioner, I obtained a tube. About four weeks after I was run out of lymph, and had several cases to vaccinate, so I was obliged to call again at the Local Government Board Office, when I accosted what I considered must have been a clerk to the first gentleman, but whom I had some difficulty to assure as to my identity as a member of the profession. However, after searching the Register, and finding me there, he granted me a single tube, although begging for more, and dismissed me with the advice that if I did not have my name removed from where it was to somewhere else, I should be struck off the list for good, and which to this moment I do not understand.

I will conclude by saying that my experience at the Office has deterred me from ever applying there again for lymph, however I can beg or borrow it. I believe the rule is in all Government situations, Do as little as you can; but I think that little might be done with common courtesy.

Yours faithfully,

King's-road, Chelsea, Feb. 1877. H. FISHER, M.D.

To the Editor of THE LANCET.

SIR,—If any of your correspondents require liquid vaccine in tubes, I can supply it gratis, if stamps for postage only and boxes are sent me. I cannot undertake to send points, as they give a vaccinator needless trouble both in collecting and drying it, &c., and the results are frequently nil on being used. I have lately taken the lymph which I can supply from heifers, and it has been passed through the system of from four to twelve healthy children since. I have never taken lymph from children unless their parents and grandparents can also show healthy lives.—Yours truly,

CHAS. ASHENDEN,

Hastings, Feb. 14th, 1877. Medical Officer of Health.

P.S.—It may interest some to know that during the twenty years I have been in practice I have never known a case of insusceptibility to vaccine virus.

HYDROPHOBIA.

To the Editor of THE LANCET.

SIR,—I have this morning read THE LANCET of Feb. 3rd. In that I see that a veterinary surgeon, who seems to lecture the medical profession, still mystifies the question of "hydrophobia" with the superfluous term of "rabies." "Rabies" may be used to signify the aberration of intellect from other causes; but hydrophobia should stand alone in its ever fatal power. The bite of a dog induces "tetanus" in no greater degree than superficial injuries from other causes when there is an unhealthy state of mind or body.

I must again refer you to my already published declaration, that in my lengthened experience of over sixty years, in my large kennels of hounds and other dogs, in all that time I never met with more than one "hydrophobic dog," who died under symptoms such as described at Glasgow. In all that time, in each succeeding year, madness arising from "distemper" in the young hounds' kennel, broke out with more or less virulence, and in the succession of years numbers of my men assisting me were bitten, but in all that time not a single instance of "tetanus" came under my notice either among my own servants or among the farm labourers, who were frequently bitten by the young hounds, refusing to be brought from the tenant's farms where they had been "walked" to the kennel.

According to the presumption of veterinary assertion, all these for a time "mad dogs" would have been labelled with the term of "rabies."

Yours &c.,

GRANTLEY F. BERKELEY.

Alderney Manor, Poole, Dorset, Feb. 6th, 1877.

DR. RICHARDSON'S EXPANDING TRACHEOTOMY TUBES.

To the Editor of THE LANCET.

SIR,—Permit us the favour of a few lines to correct the impression contained in your article headed "New Invention," in your issue of Feb. 3rd.

The tracheotomy tube therein described is identical with the one invented by Dr. Richardson in 1875, which we constructed for him originally, and have for nearly two years supplied to the profession. It is, in fact, in every particular a Richardson's expanding tracheotomy tube. Dr. Richardson exhibited and explained this tube at the Medical Society of London on March 22nd, 1876, and at the Stafford Branch of the British Medical Association on Feb. 27th of the same year. We have ourselves exhibited the tubes in the museum at the meeting of the British Medical Association at Edinburgh, and on many similar occasions. We have also supplied the tubes to various eminent members of the profession, who approved greatly of them. As on the construction of the tubes we devoted considerable time and labour in order to carry out to completion Dr. Richardson's design, for which he was good enough to thank us at the meeting of the Medical Society of London, it is but just that this correction should be tendered, and we trust you will kindly give it a place in your columns.—Yours respectfully,

KRONNE AND SEEMANN.

Duke-street, Manchester-square, Feb. 6th, 1877.

HEALTH OF DUBLIN IN 1876.

DURING the past year the births registered in Dublin amounted to 9006, being equal to a ratio of 1 in 35, or 29 per 1000 of the population; and the deaths to 8097, corresponding to 1 in 39, or 25·7 in every 1000. The average death-rate for the previous ten years was equal to 26·4 per 1000. Diseases of the zymotic class caused 1419 deaths—fever, 200; diarrhœa, 243; whooping-cough, 195; scarlatina, 194; measles, 133; croup, 73; diphtheria, 25; and small-pox, 9. The other principal causes of death were as follows:—Bronchitis, 1282; phthisis, 931; convulsions, 594; heart disease, 390; pneumonia, 242; hydrocephalus, 171; paralysis, 154; cancer, 142; mesenteric disease, 127; kidney disease, 123; apoplexy, 101; liver disease, 99; cephalitis, 52; scrofula, 51; aneurism, 34; epilepsy, 30; pleurisy, 22: whilst the deaths from violence numbered 216.

"A NEW ETHER INHALER."

To the Editor of THE LANCET.

SIR,—I have noticed in your issue of to-day a letter on the above subject, signed "Lambert H. Ormsby." Permit me to offer a few observations in reference to some of the statements put forward in that letter.

There are many inhalers as inexpensive and as simple in construction and application as the form submitted to your notice by Mr. Ormsby. The period required to produce anæsthesia is not influenced by the form of an inhaler, but rather by the skill of the anæsthetist and the quality of the ether, and I may say that the same rule holds good in relation to the quantity of ether required in a given case or number of cases. I have known many surgeons to succeed with a common napkin in producing the same good effects as Mr. Ormsby seems to so tenaciously ascribe to the use of his inhaler. Many others, including my esteemed friend, Dr. Kendall Franks, and your humble servant, have achieved like results with "Skinner's inhaler." To do justice to Mr. Ormsby, his provision for supplying the ether without removing the face-piece is an incalculable benefit. There was a similar arrangement in Dr. Morgan's inhaler; but it was too cumbersome, and had other drawbacks. It would be well, however, by extended observations, to consider the claims of other inhalers before concluding that Mr. Ormsby's is in *all respects* superior to any.—Yours truly,

FRANK THORPE PORTER, L.R.C.S.I.

Upper Merrion-street, Dublin, Feb. 10th, 1877.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir Jas. Paget, London; Dr. Brown-Séquard; Dr. Julius Pollock; Dr. Golding Bird; Mr. J. R. Lane, London; Mr. Macnamara, London; Dr. Buzzard, London; Dr. Broadbent; Dr. Matthews Duncan, Glasgow; Mr. Hamilton; Mr. Harper, Holbeach; Mr. Williams, Barrow-in-Furness; Mr. Norris, South Petherton; Mr. Hey, Hounslow; Dr. M'Kendrick, Glasgow; Mr. Porter, Dublin; Dr. H. Fisher, London; Dr. Tibbits, Bradford; Dr. Nicholas, Wandsworth; Mr. E. Owen, London; Mr. Bradley, Manchester; Mr. Irvine; Mr. Pedley, London; Mr. Coates, Salisbury; Captain Bullock, Gipsey Hill; Messrs. Krohne and Sesemann, London; Mr. Harriot, London; Mr. Scott, Manchester; Mr. Burdett, Limehouse; Mr. Bull, London; Messrs. Arnold and Sons, London; Mr. Scoones, London; Mr. Blyth, Barnstaple; Mr. Park, Stewarton; Mr. Cadge, Norwich; Mr. Roberts; Mr. Cane, Peterborough; Dr. Dreschfeld, Manchester; Mr. Ashenden, Hastings; Mr. Stone, London; Rev. W. Tebbs, Caterham; Mr. V. Jones, Denbigh; Mr. Morgan; Mr. Winterbottom, Manchester; Dr. Hewan; Mr. Aitkens, Ticehurst; Mr. Williams, Norwich; Dr. Worthington, Lowestoft; Mr. Greener; Mr. Finn; Mr. Wynter, Wandsworth-common; Dr. Gill, Folkestone; Mr. Pelling, Chatham; Dr. Reid, Arnold; Mr. Brown, Worthing; Mr. H. Le Grave, Hull; Mr. Denhill, Woodford; Mr. Edwardes, Cheam; Mr. Wilcox, Hungerford; Mr. Cameron; Dr. Eberle; Mr. Herbert; Mr. Moritz, Runcorn; Mr. Nicholson; Mr. Felce; Mr. Henson; Dr. Savage, Birmingham; Mr. Chapman; Mr. Anningson; Mr. Hay, Wolverhampton; Mr. Keeling; Mr. Hardie, Manchester; Mr. W. Smyth; Dr. Rayne, Eccles; Dr. Fergus, Marlborough; Dr. Emmerson, Leicester; Dr. Whitelaw, Cupar; M.D.; The Military Secretary, India Office; General Practitioner; Verb. Sap.; Purity and Health; The Chairman of the Ilfracombe Local Board; H. W.; Onychia; France; Gastrocnemius; Chirurgeon; The Hon. Sec. of the Medical Society of London; Bengal; Rusticus; H.; C. M.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. O'Connor, Cork; Mr. Fenwick, Ripon; Mr. Salterthwaite, Lancaster; Dr. Bonten, Clesson; Dr. Ritchie, Otley; Mrs. Pearce, Brixton; Mr. Dobson, Leeds; Mr. Martin, Alcester; Dr. Adams, Hetton-le-Hole; Mr. Howard, Belize; Mr. Hubbard, Ilchester; Mr. Churchwood, Anerley; Mr. Ross, Badcall; Dr. Russell, Dumfries; Mr. Nixen; Mr. Smith, Stone; Mrs. Evatt, Newcastle; Mr. Dodd, Tow Law; Mr. Burton; Mr. Evans; Dr. Siddall, Bristol; Dr. Wilson, Edgworthstown; Mr. Browett; Mr. Bolton; Mr. James, Taibach; A. B., Plympton; M. M., Stratford; Chemicus, Lincoln; B. T. C.; Z. Y.; A. B., Wednesbury; G. P.; Excelsior; W. C.; Lancet, Blackheath; M., Upper Sydenham; Delta; Medicus, Manchester; Yorkshire; J. D., Burton; N. B., Birmingham; Secretary; M.R.C.S., Exeter; A. B. C.; Medicus, St. Ives; A. W. A., Newcastle; Medicus, Stockwell; Paris; G. W., Cheltenham; Medicus, Leeds.

Lincolnshire Advertiser, Daily Post, Carlisle Journal, Record, Derbyshire Times, St. Louis Daily Journal, New York Medical Record, Examiner, Galls' News-Letter, Tri-Weekly Gleaner, Bradford Observer, Academy, West Middlesex Advertiser, Eastern Morning News, Sussex Daily News, Newcastle Daily Chronicle, Sunday Times, Western Morning News, Spectator, Manchester Guardian, Temperance Record, Solicitors' Journal and Reporter, Broad Arrow, Land and Water, Leeds Mercury, Metropolitan, Le XIX. Siecle, Worcestershire Chronicle, Pharmaceutical Journal, Surrey Advertiser, East London Observer, Barrow Herald, and *Folkestone Chronicle* have been received.

METEOROLOGICAL READINGS

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, FEB. 15TH, 1877.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall	Remarks at 8 A.M.
Feb. 9	30·13	W.	42	44	...	55	40	...	Cloudy
" 10	29·90	W.	49	52	...	55	42	...	Overcast
" 11	29·85	N.W.	50	54	...	57	46	0·08	Cloudy
" 12	29·83	W.	47	48	...	55	41	0·08	Raining
" 13	29·76	W.	47	49	...	52	46	0·36	Overcast
" 14	30·01	WNW	50	52	...	55	45	0·41	Overcast
" 15	29·97	WSW	49	50	...	51	47	...	Overcast

Medical Diary for the ensuing Week.

Monday, Feb. 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. W. K. Parker, "On the Osteology of Birds."
MEDICAL SOCIETY OF LONDON.—8½ P.M. Mr. J. Knowsley Thornton: "Removal of large Fibroid Uterus and Out-growths, with both Ovaries; Recovery."—Dr. Charles Drysdale, "On the Diagnosis between Syphilitic and Tubercular Phthisis."

Tuesday, Feb. 20.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. Specimens and Drawings of Syphilitic Disease of various Organs will be shown by Dr. Aitken and Dr. Sutton; of the Lungs by Drs. Shepherd and Green; of the Lungs, Bronchi, and Dura Mater, by Dr. Pye Smith; of Brain and Spinal Cord by Dr. Gowers; of Aorta and Testes by Dr. Mahomed.

Wednesday, Feb. 21.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. W. K. Parker, "On the Osteology of Birds."

Thursday, Feb. 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Feb. 23.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. W. K. Parker, "On the Osteology of Birds."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Gulstonian Lectures: Dr. Lauder Brunton, "On Pharmacology and its Relations to Therapeutics."
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Dr. M. C. Cooke, "On Black Moulds."
CLINICAL SOCIETY OF LONDON.—8½ P.M. Dr. Greenfield, "On a Case of Hydatid of the Lung."—Mr. A. T. Norton, "On Ligature of Femoral Artery; Recovery; Death subsequently from Embolism of the Basilar Artery."—Mr. Godlee: "Congenital Dislocation forwards of the Knee" (a living subject).

Saturday, Feb. 24.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

TERMS FOR ADVERTISING IN THE LANCET.

For 7 lines and under	£0	4	6	For half a page	£3	13	3
For every additional line ...	0	0	6	For a page	5	0	0

The average number of words in each line is eleven.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday; those from the country must be accompanied by a remittance.

N.B.—All letters relating to Subscriptions or Advertisements should be addressed to the Publisher.

Agent for the Advertising Department in France—
Mons. DE LOMINIE, 298, Rue Grenelle St. Germain, Paris.